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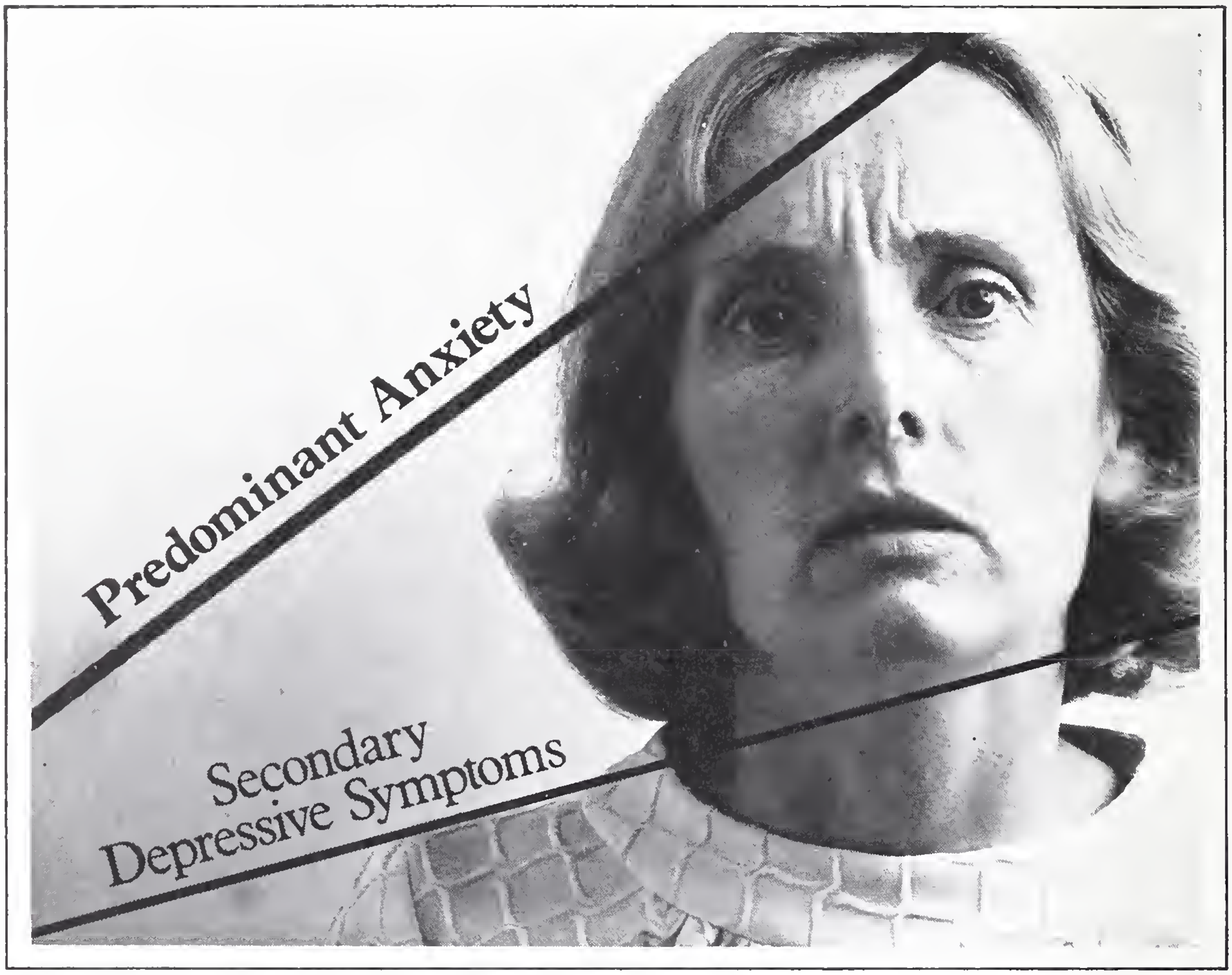

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COVER: *Black-Capped Chickadees*
by Jean Shadrach

Jean Shadrach's art career began with a single night class at the University of New Mexico and has culminated in a listing in *Who's Who in American Art.* Along the way she has shown herself to be an artist whose range of perception is complemented by the variety of subject, style, and media which characterize her work. Early pencil and pastel life studies and portraits served a firm developmental function for Shadrach's present acryllic studies of the myriad colors and wildlife of Alaska. For to refer to "Black-Capped Chickadees" as a "wildlife study" is to fail to recognize the poignant sense of personna which distinguishes the marvelous creatures of this celebrated canvas. The Anchorage Fine Arts Museum invited Jean to present a one-woman exhibit of her painting in September, 1969. She has won the Best of Show Award at the Elmendorf Air Force Base annual art exhibit, the Drawing Award and the Governor's Award at the All-Alaska Juried Art Exhibit of 1970, and was accepted in the Northwest Watercolor Annual in Seattle, Washington.

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*SUICIDAL BEHAVIOR IN ALASKA NATIVES

**Robert F. Kraus, M.D.

Among the many mental health problems that confront Alaska Natives suicidal behavior is an area of particular concern. In the last few years increasing attention has been paid to the phenomenon of suicidal behavior and various attempts have been made to formulate programs for the prevention and management of the problem. Of interest in this regard are the "hot lines" established by community groups in Anchorage and Nome and the clinical service for suicidal individuals presently provided by the mental health team at the Alaska Native Medical Center. Various reports and papers dealing with regional and Statewide aspects of the problem have appeared.[1-8]

Recently the author has been involved in clinical work with suicidal behavior in the Alaska Native population. Data have been gathered relevant to successful suicides and suicide attempts in Alaskan Eskimos, Athabascans, Tlingits, and Aleuts. This brief report will present selected data sufficient to outline the problem for members of the Alaskan medical community.

Basic information regarding incidence, age, sex, and mode for Alaska Native suicides and suicide attempters will be presented. Some observations relevant to the patterning of these behaviors with respect to the varying types of Native social organization will also be made.

It will be recalled that Alaska Native populations live in three different strata of social organization distinguishable from one another by various characteristics. Many Natives live in small, isolated, more traditional villages in which the primary emphasis is on subsistence hunting and fishing supplemented by welfare and limited seasonal employment. Another group lives in larger more transitional towns where many aspire to Western technological skills and competition in a cash economy. A third group lives in Western urban environments such as Anchorage or Fairbanks and is often at a distinct disadvantage vis-a-vis the dominant culture.

At this point it is appropriate to sound a note of caution concerning the interpretation of the figures presented in this paper. The Alaska Native population of approximately 51,000[9] is an extremely small one from the statistical point of view. Therefore, although quantitative terms such as "rate" and "incidence" are used, it should be understood that they are subject to a considerable amount of variability. The information presented here describes the trends that have been observed clinically and attempts to evaluate them against the experience described by others in various populations.

SUICIDAL BEHAVIOR IN AMERICAN NATIVES

In the last decade a small but interesting literature pertaining to suicidal behavior in American Natives on a national level has appeared. A review of this literature is beyond the scope of this paper; however, it does provide a source of baseline data for comparative purposes. Ogden *et al*[10] point out that until 1967 American Indian crude suicide rates were only slightly higher than the rates for all races, ranging from 1 to 1.2 times as high. In 1967 the ratio of American Indians to all races was 1.6. Age adjusted rates placed Indians higher relative to the general population, averaging about 1.5 times as high before 1967 and twice as high in 1967. The number of Indian suicides in 1967 were more than half again as many as the previous annual averages. Ogden points out that fluctuations from year to year are to be expected because of the small population involved (calculations were based on an American Indian total population of 600,000) but so sharp an increase had not occurred before. Ogden's figures indicate that American Indian rates are greater than rates up to age 45, but less thereafter, for all races. Whereas the rates for all races are higher in the older adult ages, rates for Indians peak in the young to middle adult years at levels two to four times as high as the corresponding age-specific rates for the general population. Ogden states that 80% of all Indian suicides in the United States from 1959-1966 were males.

Resnik and Dizmang[11] review the problem of Indian suicide and stress the wide range of variation hidden within the above figures. American Native cultures differ markedly from one another in many essential respects. The incidence of suicidal behavior varies not only by Native culture, but within culture by tribe, and in many instances within tribe by reservation. In some American Native populations suicidal behavior is rare. In

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others, as for instance among the Blackfeet Indians of Fort Hall, Idaho, suicide rates in recent years have been 10 times the national average.

The above points up again the problem inherent in making statistical generalizations concerning an Alaska Native population of 51,000. In addition to the statistical factor of small numbers, one finds within Alaska great cultural and social variation. Foulks[12] has demonstrated, for instance, that the incidences of schizophrenia, depression, alcoholism, and psychoneurosis vary among Alaska Native populations not only by culture but also by social organization in terms of the village, town, and city strata mentioned previously.

SUCCESSFUL SUICIDE IN ALASKA NATIVES

Table 1 illustrates successful suicides in Alaska Natives by age group and by year during the period 1950 to 1970. The 149 individuals tabulated represent those for whom an appropriate investigation has determined suicide as a cause of death and for whom a death certificate listing suicide as a cause of death has been filed. Suicide is generally acknowledged to be an under-reported phenomenon. This is perhaps particularly true of Alaska with its factors of isolation and distance. In the course of the research deaths are frequently encountered in which the suspicion of suicide is very high but the death is not recorded as such. These individuals tend to be officially recorded as "accidental" deaths and are not included in the figures presented here. The 149 cases, therefore, represent a minimal total of high validity.

Examination of the table reveals certain interesting facts. 1966 seems to be a pivotal year insofar as successful suicides in Alaska Natives are concerned. During that year the incidence of suicide increased sharply, an increase which has maintained itself in every year since that time with the exception of 1969. Incomplete data for 1971 and 1972 suggest that the trend is continuing. The increase seems to be accounted for in large part by suicide among the young, with the age group 15-25 being at highest risk. The problem of suicide in Alaska Natives parallels that in American Natives in that it is a phenomenon of suicide in adolescents and young adults. While calculation of a "rate" with such small numbers is a questionable procedure, the rate of suicide in 1970 among Alaska Natives using the U.S. Census population figures was approximately 33 per 100,000. This is approximately 3 times the rate for White Americans living outside of Alaska and approximately 50% in excess of the rate reported by Ogden[10] for the total American Native population. An alternate and more accurate procedure is to calculate 5-year average annual rates for the periods 1961-1965 and 1966-1970 using an estimated total Native population for 1960 of 43,000 and for 1970 of 51,000. This procedure gives rates of 13/100,000 for the interval 1961-1965 and 25/100,000 for the interval 1966-1970, and illustrates an approximate doubling of the rate during the more recent interval. Breakdown of successful suicides by sex reveals that approximately 60% are males. This is somewhat less than the rate reported by Ogden. Table 2 gives a breakdown of the 149 successful suicides by mode and illustrates the preponderance of highly lethal methods. Of the 24 deaths by ingestion, 12 involved the drug Isoniazid (INH); this will be discussed in more detail below.

TABLE 1

SUCCESSFUL SUICIDES IN ALASKA NATIVES 1950-1970

Estimated Total Population
Alaska Natives as of February, 1971
60,000

	AGE							
	15	16-25	36-35	36-45	46-55	56-65	66 +	N
1950		2	1	2	2			7
51		3						3
52		2	2	1	2	1		8
53			2		1			3
54		1	1	1	1			4
55			3					3
56		2	1		2	1		6
57		3	2		2			7
58	1		2	1		1	1	6
59		3						3
1960			3	1				4
61		2	2	1	1	1		7
62		3	2	1	1	1		7
63		2	2					4
64			4	2	2		1	9
65	1	1	1		1		1	5
66		7	1	1	1	1	2	13
67	2	8	4			1		15
68		3	6	1	2	2		14
69		2	1	1				4
70		7	6	2	3			17
N	4	51	46	15	20	8	5	149

The calculation of the patterning of successful suicide according to its incidence in village, town, or city presents a difficult technical problem for two reasons. First of all, an already small number of cases becomes even smaller on subdivision, thus rendering clinical judgments more difficult. Secondly, in dealing with statistics which go back 20 years one must confront the fact that Native social organization has changed considerably. Nevertheless, the more recent data suggest that suicide on the village level tends to be undertaken by an older, perhaps chronically ill, male. On the town level young males predominate. In the city, suicides tend to be divided equally between young males and females. These preliminary observations suggest that the pressures, cultural and otherwise, leading to suicide are differential in nature and related to the type of social organization within which the individual finds himself.

TABLE 2

SUCCESSFUL SUICIDES IN ALASKA NATIVES BY MODE

1950-1970 N - 149

Gun	95
Ingestion	24
Hanging	10
Knife	5
Jump	3
Drowning	3
Exposure	1
Fire	1
Unknown	7
Total	149

SUICIDE ATTEMPTS IN ALASKA NATIVES

The observations made above regarding the difficulties in establishing incidence rates for successful suicide apply with emphasis to the problem of suicide attempts. A true measure of this type of behavior is extremely difficult to establish. Although a large series of suicide attempters has been identified, it is felt that the clinical data are inadequate at this point to estimate an attempter rate for the total Alaskan Native population. It is possible, as will be seen below, to make estimates for certain subpopulations.

The attempter series is large, includes individuals from the four major native Alaskan cultures, and has been analyzed in varying degrees of completeness. The 121 suicide attempters summarized in Tables 3, 4, and 5 practically all made their attempts during the period 1969-1971 and have received relatively detailed study. All are members of a single Native culture, the 121 cases constituting about one-half of the total number of attempters identified in that particular culture to date. Keeping in mind what has been said about cultural variation, it should be remembered that the 121 cases are not representative of the total Native population.

This attempter group shows a reversal of the sex ratio described for successful suicides, women outnumbering men by better than 2 to 1. As with successful suicide, the behavior predominates in those under 35 with the age group 15 to 25 seemingly at high risk. Pill taking, a less lethal and more reversible type of self-destructive behavior, predominates. The prototypal suicide attempt suggested by the data, that of a young, single woman who overdoses with pills, is not essentially different from that reflected in a variety of other reports describing both American Natives and Whites.

TABLE 3

ANALYSIS OF 121 ALASKA NATIVE SUICIDE ATTEMPTERS BY AGE GROUP AND SEX

	SEX			
	Male	Female	N	1970 Population at Risk by Age Group[9]
15	2	4	6	4947
15 - 25	18	43	61	2136
26 - 35	11	26	37	1087
36 - 45	3	11	14	960
46 - 55	0	1	1	708
55	1	1	2	892
N	35	86	121	

TABLE 4

ANALYSIS OF 121 ALASKA NATIVE SUICIDE ATTEMPTERS BY SEX AND MODE

	SEX		
	Male	Female	Total
Pill	16	56	72
Knife	3	12	15
Gun	5	0	5
Multiple*	10	16	26
Unknown	1	2	3
Total	35	86	121
Total Alaska Native Population by Sex for 1970	25,818	24,836	

*Multiple attempts utilizing more than one mode. Includes such modes as pills, knives, guns, hanging, gas, and jumping in front of a vehicle or from a height.

TABLE 5

ANALYSIS OF 121 ALASKA NATIVE SUICIDE ATTEMPERS BY SEX AND MARITAL STATUS

	SEX		
	Male	Female	Total
Married	7	34	41
Single	25	42	67
Separated	1	0	1
Divorced	1	8	9
Widow or Widower	1	0	1
Unknown	0	2	2
Total	35	86	121

It should be noted that approximately 20% of the attempters made multiple attempts utilizing more than one mode. Also, of the 72 ingestions 12 involved INH. The high frequency of INH overdosage among both successful suicides and attempters, some of whom suffer permanent brain damage as a sequela, reflects the availability of large amounts of this drug in many Alaskan households. Brown[13] has reviewed in detail the problem of overdosage with this dangerous drug in Alaska and outlined various approaches to treatment.

From the standpoint of social organization, suicide attempts appear to be infrequent in most villages (with some notable exceptions). A clinical impression is that when a suicide attempt occurs in the village setting, it is often an older married woman in whom the suicidal behavior occurs in the context of chronic marital difficulties complicated by alcohol. Suicide attempts seem to be much more frequent in the towns and among Native populations in the cities. In these settings rough measures of the incidence of suicidal behaviors may be obtained by the relatively simple technique of identifying suicide attempters treated in a hospital setting and eliminating those evacuated to the hospital from a distant locale. This technique does not yield a true incidence but rather a "hospital treated" figure. However, it offers the advantage of base line data involving cases of high validity. Also, similar figures from other Native American cultures are available for comparison.

Utilizing this technique during one calendar year, 1970, 29 cases of suicidal behavior severe enough to warrant hospitalization were identified in a town having approximately 2000 Native inhabitants. Extrapolation of these figures gives an incidence of 1450/100,000/year. Using the same technique, 75 suicide attempters during a single year, 1970, were identified in the Native population of Anchorage, estimated at 7500. This gives an incidence of 1000/100,000/year. Miller and Schoenfeld[14] conducted a similar study of 100,000 reservation Navahos and established an incidence for successful suicide of 12.8/100,000/year and for suicide attempts of 89.6/100,000/year. Shore[15] calculated incidences of 28/100,000/year for successful suicide and 450/100,000/year for attempted suicide for combined Northwest Indian reservation populations totaling 17,750. Mintz[16] has published incidence figures for the city of Los Angeles of 17/100,000/year for successful suicide and 130/100,000/year for suicide attempters. The Mintz figures were the result of an actual attempt to sample the Los Angeles population and thus represent an approximate true incidence rather than a "hospital treated" figure.

CONCLUSION

The Alaska Native population is numerically too small, culturally too diverse, and socially too variegated to lend itself to reliable statistical analysis. For this reason the preliminary figures presented in this paper are of suggestive value only. It would appear that, utilizing conservative criteria so as to include only cases of high validity, Alaska Natives have a suicide problem of some magnitude. Work is currently underway in the area of provision of medical services for this problem.

The author wishes to acknowledge the helpful comments and suggestions of P. Buffler, M.P.H. who reviewed the epidemiological aspects of this paper.

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Chugach State Park

*THE CURRENT MANAGEMENT OF MALIGNANCY

**II - Hodgkin's Disease

***Frank J. Panettiere, M.D.

MALIGNANT LYMPHOMAS: A GENERAL OVERVIEW

Although the purpose of this series is to present the latest thoughts in the treatment of neoplasia, when we came to the lymphomas, we cannot limit our discussion only to therapy. There has been a fantastic proliferation of important new facts about these disorders. We must review these first and attain a greater insight into these diseases to fully appreciate the advances in therapy and better manage the patients with them.

It is not true that what is called lymphosarcoma is similar, or even related, to Hodgkin's disease. Rather, lymphosarcoma is much closer akin to chronic lymphocytic leukemia and multiple myeloma. An understanding of this is important as it helps give a better insight into the basic natures, potential complications, and appropriate therapies of these disorders.

To appreciate this, one must recognize that the normal person has circulating two entirely different populations of lymphocytes. The T-lymphocytes are so called because in animals and in man they are derived from the thymus. They are important in cellular immunity. B-lymphocytes get their name from the fact that in fowls they are related to the Bursa of Fabricius. (The human counterpart of the Bursa has not yet been demonstrated.) These B-lymphocytes give rise to plasma cells and therefore are important for immunoglobulin production and humoral immunity.

Hodgkin's disease is characterized by progressive depletion of T-lymphocytes.[1] This results in diminished cellular immunity and such findings characteristic of Hodgkin's disease as negative skin tests and impaired resistance to those organisms usually handled by chronic cellular means (tuberculosis, deep fungi, etc.). However, until late in Hodgkin's disease when the patient is cachectic, he has normal humoral immunity (B-lymphocytes, plasma cells), and so a normal resistance against infections where antibodies are important, as for example bacterial pneumonias.[2]

So-called lymphosarcoma is different. It is generally a disease of B-lymphocytes.[1, 3, 4] Here there is a malignant proliferation of abnormal B-cells. When they stay in tissue and result in enlarged lymph nodes, we see what is called lymphosarcoma. The very same B-cells accumulate in the circulating blood and bone marrow in most cases of chronic lymphatic leukemia.[3, 4] In these entities, T-cells are normal. Therefore, there is normal cellular immunity, resulting in normal delayed hypersensitivity skin tests and normal resistance to tuberculous and fungal infections.

But, as we said, these B-lymphocytes are abnormal, and plasma cells develop from the maturing of B-cells. Therefore, it is not surprising that lymphosarcoma and chronic lymphatic leukemia have several clinical features similar to the plasma cell malignancy, multiple myeloma. Depending on the defects of the abnormal B-lymphocytes, these patients may have in their sera "M spikes" of abnormal immune globulins, similar to that seen in multiple myeloma, with or without decreased levels of "normal" antibody globulins. When the abnormal B-cells in these lymphomas produce only fragments of immunoglobulin molecules, syndromes such as the "heavy-chain diseases" we will discuss in a later article can develop. In any of these B-lymphocyte malignancies, there may result defective humoral immunity making these individuals susceptible, unlike the patient with Hodgkin's disease, to repeated and serious bacterial infections.[5]

With these facts in mind, we will now discuss Hodgkin's disease. The non-Hodgkin's malignant lymphomas, multiple myeloma and the leukemias will be reviewed in detail in the next article in this series.

HODGKIN'S DISEASE

In January 1832, Thomas Hodgkin reported on a number of cases he had seen.[6] He considered them all manifestations of the same disease process which later generations have called, Hodgkin's disease. However, of the seven cases Hodgkin described, Fox has shown that only three had what we now call "Hodgkin's disease."[7] Today, 142 years after Hodgkin's description, we are still learning valuable facts about the histology and pathogenesis of this disorder.

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*The views expressed herein are those of the author and do not necessarily reflect the views of the U.S. Air Force or the Department of Defense.

**The first article in this series appeared on pages 114-116 of the issue of September 1973.

***Lt Col Panettiere is currently Chief of the Department of Medicine at the USAF Hospital Elmendorf. He is also an Associate Investigator of the Southwest Oncology Group, and a member of the American Society of Clinical Oncology.

For the diagnosis of Hodgkin's disease, the Reed-Sternberg cell has been the *sine qua non.* However, identical cells have been seen in such lymphadenopathies as those of infectious mononucleosis, smallpox vaccination, and anticonvulsant "pseudolymphoma."[8, 9, 10] Therefore, we should be cautious about the diagnosis of Hodgkin's disease based only on histology where the clinical picture seems atypical.

The old Jackson and Parker histological classification of Hodgkin's disease was not very useful because only 10 per cent of patients fell into the favorable category of paragranuloma, five per cent had the poor prognosis of Hodgkin's sarcoma, and the great majority, 85 per cent, were in the broad, in-between, granuloma group. Therefore, at the Rye Symposium, *Obstacles to the Control of Hodgkin's Disease*, the more useful Lukes and Butler classification was proposed,[11] and after modification,[12] it was accepted.

The Lukes and Butler classification divides Hodgkin's disease into four histologic categories. They are, in the order of decreasing amounts of lymphocytes and increasing numbers of Reed-Sternberg cells, as follows: Lymphocyte Predominate, Nodular Sclerosis, Mixed Cellularity, and Lymphocyte Depleted. Many authors, here and abroad, have found the classification useful in predicting prognosis.[12,13,14] Universally, Lymphocyte Predominate and Nodular Sclerosis are are shown to have the best prognosis, with Mixed Cellularity significantly worse, and Lymphocyte Depleted significantly worse still. Typical are the five-year survival rates reported by Gough[14]: Lymphocyte Predominate — 58%; Nodular Sclerosis — 45%; Mixed Cellularity — 18%, and Lymphocyte Depleted — 8%.

However, one must be cautious about the accuracy of a histologic label given a specific patient's disease. In one study,[13] three noted lymphoma pathologists reviewed 176 cases of Hodgkin's disease. In 67 per cent of cases, they were in unanimous agreement. Therefore, in one-third of cases, even the experts did not agree on the histologic type the patient had. Nevertheless, the Lukes and Butler classification of Hodgkin's disease has proved so useful that it has essentially entirely replaced that of Jackson and Parker.

Another histologic observation which may prove important prognosis is the presence or absence of vascular invasion.[16] In Hodgkin's disease, this finding appears to be a strong indicator of widespread hematogenous dissemination. However, routine histologic slides may not show this feature even when present. In one study,[17] only nine of 499 specimens demonstrated invasion of veins on routine hematoxylin and eosin stains. In 10 out of 100, it was evident on an elastic stain.

Important as these histologic features are, the location and extent of the Hodgkin's disease is much more meaningful or prognosis and therapeutically. This is made clear by an analysis Vera Peters made of 323 consecutive patients she had treated.[18] She assessed the presence or absence of disease beneath the diaphragm generally according to the appearance of nodal architecture on lymphangiography.[19] However, recently the diagnostic accuracy and usefulness of that procedure has been questioned.[20, 21.]

Whether accurate or not in the nodes that it visualizes, a lymphangiogram shows only one-half of the intra-abdominal lymph nodes. It gives no information at all to answer the important questions as to the presence or absence of Hodgkin's disease in the liver or spleen. Because of this, in many centers around the world, surgical exploration of the abdomen is being performed to assess the extent of disease.[22-29] Surgical exploration and node biopsy show the lymphangiogram frequently gives a false impression as to the presence or absence of node involvement.[22] Prior to surgery, enlargement of the spleen has been the criterion by which we judge involvement of Hodgkin's disease in that organ. However, when it is removed at a staging splenectomy, histologic examination shows that only half of the time do enlarged spleens harbor a Hodgkin's infiltration. Conversely, in one-quarter of normal size spleens there is histological involvement.[27] In a series of 340 previously untreated patients, 44 showed splenic involvement histologically. No patient whose spleen was free of disease showed hepatic involvement, suggesting the disease spreads directly from the spleen to the liver.[28]

This information is interesting. But does it mean that patients with Hodgkin's disease should routinely be subjected to abdominal exploration? There has been much controversy about this.[30, 31] In children, splenectomy for whatever cause results in a propensity to the later development of sepsis.[32] A review of 1170 lymphoma patients who had a staging splenectomy showed severe infection in 1.4 per cent.[33] On the other hand, removal of the spleen has several advantages in addition to giving a more accurate assessment as to the extensiveness of the disease. It removes an organ which frequently is involved late in the disease, resulting in serious pancytopenia. It eliminates an organ which can be difficult to irradiate due to risks to the nearby kidney. In addition, without his spleen, the Hodgkin's patient has been shown to complete radiotherapy[34] and chemotherapy[35] in significantly shorter periods of time while maintaining higher circulating blood counts. However, at the 1971 Ann Arbor Symposium, *Staging in Hodgkin's Disease*, the select committee agreed to recommend that abdominal exploration with splenectomy be performed only if decisions on the management of the patient were to depend on the presence or absence of intra-abdominal disease.[36] Their feeling was that if prior to surgery a decision had already been made as to the form of therapy a particular patient was to receive, there was no need for a staging celiotomy.

This implies that the patient has been subjected to a thorough clinical evaluation. Because liver or bone marrow involvement would contraindicate radical radiotherapy and make chemotherapy mandatory no matter what might be found at abdominal exploration, these organs especially should be carefully evaluated so as to spare the patient possible unnecessary surgery. It is important here to realize the inadequacy of the routine bone marrow aspirate compared to the needle or open biopsy in the discovery of occult Hodgkin's disease in the marrow.[37, 38] A clue to its presence is the finding that 32 of 36 patients with proven Hodgkin's disease in the bone marrow had elevated levels of serum alkaline phosphatase.[38]

A summary of the meaning of various factors in the prognosis of the patient with Hodgkin's disease is found in the analysis of Patchefsky, *et al.*[39] Their data show that although an older age, male sex, and systemic symptoms implied a poorer prognosis, histologic type and stage of disease had a much greater impact on longevity.

Today, there is much we can do to benefit the patient with Hodgkin's disease by means of radiotherapy, or chemotherapy, or both in sequence. The basic principle has been that if a patient could rationally be expected to be cured by radiotherapy, that mode of treatment takes precedence over chemotherapy. The effectiveness of radiotherapy when directed at areas of known disease, plus those regions where occult disease could be expected, was shown by Peters[40] and later amplified by the work of Kaplan.[41] Such a therapy has not only resulted in prolonged control of the disease, but also many cures. The Yale study of stage I and II disease shows that where less intensive radiotherapy resulted in a 35% five-year survival and no survivor free of disease, radical radiotherapy resulted in an 82% five-year survival rate including 55% living without evidence of disease.[42] Based on such results, in many centers the concept of radical radiotherapy is now being expanded to include such approaches as extended fields, total lymphoid, and total nodal radiotherapy.[43]

In the past few years, there has been a dramatic improvement in the effectiveness of chemotherapy in Hodgkin's disease. This was inevitable because with so many effective single drugs[44], some combination of them had to appear with at least additive benefit. The MOPP combination (with Nitrogen Mustard, Oncovin^{R}, Procarbazine, and Prednisone)[45] proved so effective that rapidly its use became world wide.[46] Originally, MOPP was given for six courses, and then all treatment was stopped. In this group of patients, 43 were previously untreated. Eighty-one percent had complete disappearance of all manifestations of their Hodgkin's disease. Four or more years without any further therapy, 15 still showed no recurrent disease.[47] Many of these patients can be considered cured if we can extrapolate from the radiotherapy experience where if Hodgkin's disease is not cured, it will reappear within four years.[42] MOPP has therefore become the foundation on which to build in attempts to further improve the treatment of the disease. The greatest effectiveness to date comes from the Southwest Oncology Group, which combined MOPP with Bleomycin.[48] The best results were seen when the latter drug was given at a dose of 2 mg per meter^2 on the first and eighth day of each of the first six courses of MOPP. Only stage IIIB and IV were included, and yet 89% had complete disappearance of all evidence of disease. It is as yet too early to be certain as to the duration of response.

With such great effectiveness from both radiotherapy and chemotherapy, it was inevitable that both modalities would be combined in an attempt to further enhance the response rate. Some authors have reported that when patients relapsed after extensive radiotherapy, their tolerance to subsequent MOPP chemotherapy was not impaired.[49] However, most of us have seen lower response rates and shorter durations of response compared to those whose marrows had not withstood prior radiotherapy.[50] Currently, many centers are combining both modalities of therapy for the initial treatment of patients with Hodgkin's disease. In different studies, the chemotherapy is given before the radiotherapy, or after it, or both.[51, 52] Combining therapy definitely increases morbidity. However, it is far too soon to judge whether the patient so treated will be benefited with an increased chance of prolonged response and cure. Such is the "problem" that when the responsiveness is so great; it grows more and more difficult to learn if we can do better. Would that we had such a problem with most other malignant diseases!

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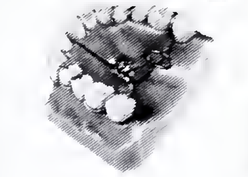

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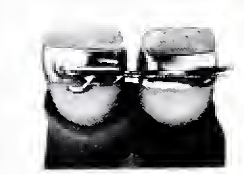

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Dosage forms: *Tablets*, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. *Liquid*, 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

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CRITERIA FOR THE DIAGNOSIS OF ALCOHOLISM: A Progress Report

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National Council on Alcoholism

The Shaefer Commission has characterized alcoholism as America's biggest drug problem. This is a public health subject that affects the entire nation, and has aspects which must be dealt with by the special facilities, general and psychiatric hospitals, by law enforcement officers, business, industry, the legislature, and the courts. It is, in fact, the courts to whom we looked for one of the great advances in alcoholism. The Easter and Driver decisions stated that arresting someone for alcoholism or public inebriation violated the Fourth Amendment because alcoholism is a disease. After these decisions, we felt that we could look to the time when public inebriation would not be considered a crime but an illness. But when the subject came before the Supreme Court, by a hairbreadth decision in which the Court was split four-to-four-to-one, the Court ruled against giving the protection of the Constitution to the public inebriate as a sick individual, partially on the grounds of expediency ("the hospitals will be flooded"). This case (Powell vs. Texas) has been surmounted by the urgency of the health needs of the country. By going through the legislative route (supported by the recommendations of the Governors' Commission on Uniform Laws who consulted, among others, with the National Council on Alcoholism), versions of a Uniform Law on Public Inebriation have now been passed in 16 states. These laws take alcoholism out of the criminal justice system. Pressure by the alcoholism authorities in the various states and local affiliates and associates of NCA is keeping up for satisfactory versions of the Uniform Law to be passed in the remainder. But still it is of extreme importance that we should look at the judgment of the Powell vs. Taxes case as it represents a studied opinion by those most qualified to render an opinion how we, who represent the combined thrust of those interested in the recovery from alcoholism, appear to others. And the highest court in the land pronounced that there is no substantial consensus as to the manifestations of alcoholism.

It was this challenge which the NCA accepted in preparing the *Criteria for the Diagnosis of Alcoholism* — knowing that beneath the apparent contradictions in philosophical statements, there was a solid ground work of almost intuitively accepted assumptions as to what alcoholism is; the consensus of 65 experts corroborated this. It seemed particularly fitting for the National Council on Alcoholism to undertake such a task, as other voluntary health organizations had produced standards for the diagnosis of the diseases of their interest, e.g., The American Heart Association has produced the Jones Criteria for diagnosing Rheumatic fever, and the Diagnostic Classification for Tuberculosis was produced by the American Tuberculosis and Respiratory Disease Association. We also sensed a great urgency in producing this document, because of the massive programs of identification which have been set up in labor-management programs of the government and private industry, in the Department of Transportation, and in the states where public inebriation has already become classified as a health rather than a legal problem.

Thus we have this document — and if you look at it carefully, you will find that not one of the manifestations of alcoholism which it presents are strangers to those who see alcoholic people. They represent what you have been observing in your treatment activities and in your histories and anamneses, and examinations. In the organization of the material, the attempt was made to put it in logical form. If there are many items, it is because there are many manifestations. But if we go through it we can see how they all devolve from the actions of alcohol on the brain and the body and thus on the social and emotional life of the individual.

One thing that was a thorny problem was where the delineation comes between so-called problem drinking and alcoholism. We did not feel that there was enough evidence that one, four, or even twelve episodes of inebriation of unstated degree in a year was enough to justify inevitable hospitalization or institutional care for a one-to-six month treatment for alcoholism, to be followed by a life-long commitment to A.A. or other followup. One must consider the action nature of the potential use of the Criteria in making these judgments. In the volume, *Alcohol and Alcoholism*, produced by the Health, Education and Welfare Department in 1972, it states, "For each individual case, proper diagnosis of alcoholism requires the services of an expert." To the extent that this is true, it is something which cryingly needs correcting. If we are to begin to get into treatment those who need it, we must find an objective means not requiring an elite corps to delimit when alcoholism exists. Of course, we will always be able to use and need people particularly skilled and efficient in the treatment field and in diagnosis of borderline cases. Also, if there is such a thing as alcoholism, there must be particularly skilled and trained individuals to do the treatment — but even these people should devote part of their time to developing methods which will make others able to carry part of the burden. Dr. Houston Merritt, the Chief of Neurology and later Dean of Columbia University Medical School, said of the specialty of neurology, "The goal of a specialty is to commit suicide." In other words, its goal is to develop information and methods for the diagnosis and treatment of the disease that can be taught to and adopted by primary care givers generally. The same can be said of the phrase I have heard sometimes, and usually as a joke from some people in A.A., "It takes one to know one." If it does, those people should determine how they come to their conclusion and let us others into the act.

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*This paper was originally presented at the Alcohol and Drug Problems Association of North America meeting at Bloomington, Minn., September, 1973.

Aside from our expert core committee and the correspondents who commented on the Criteria before their publication, we owe a great debt to those who have been working on this problem before. We must cite Dr. F. M. Jellinek, Dr. Rudolph Mortimer and Dr. Don Cahalan.

Reviewing the Criteria as they have been established we can achieve some recognition of the possibility in alcoholism diagnosis. We have saved for the term alcoholism those people with physical and psychological dependence on alcohol — what we have previously called alcohol addiction. This is consistent with the World Health Organization's definition and the American Psychiatric Association's definition. It is rather an amplification of these than a new discovery. It also clearly puts alcoholism into the same range of interest as dependencies on other drugs. The National Council on Alcoholism still feels that alcoholism itself has differences from dependencies on other drugs sufficient enough to merit special attention. Its enormous scope, the legal differences, the physical consequences, all fall into this pattern. What I am suggesting is that there is a genus drug dependence, and several species — one of which is alcoholism. At the present time, we are still in the position that we were in years ago with tuberculosis, under the genus infectious disease one, namely, tuberculosis justified special attention because of special problems associated with its distribution and other factors. If we so characterize alcoholism, we are not including the other types of alcohol use. Although the term "alcohol abuse" has wide currency, we have adopted alcohol use to be consistent with the general practice in the drug dependence field where "users" are differentiated from people who are dependent. (TABLE I.) You will note that there are three categories under alcohol use. It is the last one of these that requires some subtlety in diagnosis, since someone who uses alcohol in reaction to another underlying psychological or situational event may be hard to distinguish from the primary alcoholic. You will also see that not a great distinction is made between a separate category of periodic alcoholism, and alcoholism.

TABLE 1

Alcohol Use

Alcohol Use with Inebriation

Alcohol Use with Pathological Intoxication

Alcohol Use: Reactive, Secondary,
or Symptomatic

Alcoholism

**Alcoholism with Intermittent or
Recurrent Drinking**

**Alcoholism: Recovered, Arrested, or
in Remission**

We defined as major criteria those that would be by themselves diagnostic of alcoholism or alcohol dependence. The first is the presence of the alcohol withdrawal syndrome. You will notice that vomiting is not among them. To call anyone who vomits an alcoholic would needlessly enlarge the number of diagnostic errors.

The next major criterion is evidence of tolerance. Quantity frequency was not emphasized because in the clinical situation it has been so notoriously unreliable. Thus, we prefer measures with blood alcohol levels. Dr. Wilkins in England has done a cooperative questionnaire study on high risk patients who were seen by G.P.'s. He found the diagnosis of alcoholism increased by 9 times what it was before. Moreover, 75 per cent of those patients who appeared with alcohol on their breath in the doctor's office turned out to be alcoholic. This was a new insight for these physicians. The alcoholic blackout period had been found by Dr. Lee Robins to be one of two indicators that most frequently would spot an alcoholic. Goodwin, among others, has been able to connect blackouts with tolerance.

While we are still in the physical realm, we note that physical diseases of a permanent pathology caused by heavy drinking are considered major signs of alcoholism. We have listed under major and minor signs a variety of laboratory tests consistent with heavy alcohol use including an elevated uric acid.

Table I
Major Criteria for the Diagnosis of Alcoholism

Criterion		Diagnostic Level
TRACK I. PHYSIOLOGICAL AND CLINICAL		
A. Physiological Dependency		
1. Physiological dependence as manifested by evidence of a withdrawal syndrome when the intake of alcohol is interrupted or decreased without substitution of other sedation. It must be remembered that overuse of other sedative drugs can produce a similar withdrawal state, which should be differentiated from withdrawal from alcohol.		
a) Gross tremor (differentiated from other causes of tremor)		1
b) Hallucinosis (differentiated from schizophrenic hallucinations or other psychoses)		1
c) Withdrawal seizures (differentiated from epilepsy and other seizure disorders)		1
d) Delirium tremens. Usually starts between the first and third day after withdrawal and minimally includes tremors, disorientation, and hallucinations.		1
2. Evidence of tolerance to the effects of alcohol. (There may be a decrease in previously high levels of tolerance late in the course.) Although the degree of tolerance to alcohol in no way matches the degree of tolerance to other drugs, the behavioral effects of a given amount of alcohol vary greatly between alcoholic and nonalcoholic subjects.		
a) A blood alcohol level of more than 150 mg. without gross evidence of intoxication.		1
b) The consumption of one-fifth of a gallon of whiskey or an equivalent amount of wine or beer daily, for more than one day, by a 180-lb. individual.***		1
3. Alcoholic "blackout" periods. (Differential diagnosis from purely psychological fugue states and psychomotor seizures.)		2
B. Clinical: Major Alcohol-Associated Illnesses Alcoholism can be assumed to exist if major alcohol-associated illnesses develop in a person who drinks regularly. In such individuals, evidence of physiological and psychological dependence should be searched for.		
Fatty degeneration in absence of other known cause		2
Alcoholic hepatitis		1
Laennec's cirrhosis		2
Pancreatitis in the absence of cholelithiasis		2
Chronic gastritis		3
Hematological disorders:		
Anemia: Hypochromic, normocytic, macrocytic, hemolytic with stomato-cytosis, low folic acid		3
Clotting disorders: prothrombin elevation, thrombocytopenia		3
Wernicke-Korsakoff syndrome		2
Alcoholic cerebellar degeneration		1
Cerebral degeneration in absence of Alzheimer's disease or arteriosclerosis		2
Central pontine myelinolysis	diagnosis only possible postmortem	2
Marchiafava-Bignami's disease		2
Peripheral neuropathy (see also beriberi)		2
Toxic amblyopia		3
Alcohol myopathy		2
Alcoholic cardiomyopathy		2
Beriberi		3
Pellagra		3
TRACK II. BEHAVIORAL, PSYCHOLOGICAL, AND ATTITUDINAL All chronic conditions of psychological dependence occur in dynamic equilibrium with intrapsychic and interpersonal consequences. In alcoholism, similarly, there are varied effects on character and family. Like other chronic relapsing diseases, alcoholism produces vocational, social, and physical impairments. Therefore, the implications of these disruptions must be evaluated and related to the individual and his pattern of alcoholism. The following behavior patterns show psychological dependence on alcohol in alcoholism:		
1. Drinking despite strong medical contraindication known to patient		1
2. Drinking despite strong, identified, social contraindication (job loss for intoxication, marriage disruption because of drinking, arrest for intoxication, driving while intoxicated)		1
3. Patient's subjective complaint of loss of control of alcohol consumption		2

Then we go to social behavioral and attitudinal parameters. Here we have indicated just the gross social dislocations attendant upon alcoholism. Jellineck's loss of control and inability to abstain are missing from the Criteria except for the special instance where the patient himself feels there is a loss of control. We felt that loss of control is a tough concept. It requires a judgment on the part of the observer which may widely differ between different observers. However, if you look at the more objective events which are listed in the major and minor criteria, you will note that they bespeak loss of control, and the inability to abstain.

We have listed many minor criteria. In the illustrations we have arranged the minor criteria so that the early, middle and late signs have been grouped separately with physical aspects on the left, behavioral in the middle, and psychological and attitudinal on the right. Here you will note many of the symptoms that we ordinarily put together to make a diagnosis. The placement into early, middle, and late is somewhat arbitrary, and certain later signs may in individual cases come earlier or vice versa. The fact that there are fewer signs earlier is perhaps unfortunate, perhaps correctible by future investigation, but it is the nature of the case. I can say with conviction that there are plenty of candidates around in the middle stages who can and will respond to treatment. These are the people whom we have a special mandate to help.

We finally come up to the business of recording the diagnosis. We have asked particularly for a separate psychiatric diagnosis in addition to alcoholism. This is most important for our future work of separating different treatment methods and prognosis.

You will find in the Criteria things that occur generally but also occur in alcoholism — rapid or irregular pulse, for instance. The listing of this kind of symptom is necessary to arouse a high index of suspicion. You will find symptoms which occur only in alcoholics, but even in alcoholics only in rare cases. We must include such patients in our overall picture. Where a symptom would be frequently found in alcoholics but rarely in others, these, of course, must be included.

People have characterized the Criteria as being a "laundry list of symptoms" too long for anyone pay attention to, but this is just the kind of thing we do in other health problems and the descriptions of disease are memorized by physicians who are on the hunt for an explanation of symptoms with groupings of them so as to make a consistent explanation of behavior. The problem-oriented medical record is an instance of this. Others have deplored our Criteria as encouraging a mechanical diagnosis. These people have not read the caveat in the text:

"A purely mechanical selection of items is not enough; the history, physical examination and other observations, plus laboratory evidence must fit into a consistent whole to ensure a proper diagnosis."

The "diagnostic level" attached to each criterion is an attempt to differentiate between the Criteria on the basis of the degree of differential diagnosis needed to assure the connection of the

Table II
Minor Criteria for the Diagnosis of Alcoholism

Criterion	Diagnostic Level
TRACK I. PHYSIOLOGICAL AND CLINICAL	
A. Direct Effects (ascertained by examination)	
1. Early:	
Odor of alcohol on breath at time of medical appointment	2
2. Middle:	
Alcoholic facies	2
Vascular engorgement of face	2
Toxic amblyopia	3
Increased incidence of infections	3
Cardiac arrhythmias	3
Peripheral neuropathy (see also Major Criteria, Track I, B)	2
3. Late (see Major Criteria, Track I, B)	
B. Indirect Effects	
1. Early:	
Tachycardia	3
Flushed face	3
Nocturnal diaphoresis	3
2. Middle:	
Ecchymoses on lower extremities, arms, or chest	3
Cigarette or other burns on hands or chest	3
Hyperreflexia, or if drinking heavily, hyporeflexia (permanent hyporeflexia may be a residuum of alcoholic polyneuritis)	3
3. Late:	
Decreased tolerance	3
C. Laboratory Tests	
1. Major — Direct	
Blood alcohol level at any time of more than 300 mg./100 ml.	1
Level of more than 100 mg./100 ml. in routine examination	1
2. Major — Indirect	
Serum osmolality (reflects blood alcohol levels): every 22.4 increase over 200 mOsm/liter reflects 50 mg./100 ml. alcohol	2
3. Minor — Indirect	
Results of alcohol ingestion:	
Hypoglycemia	3
Hypochloremic alkalosis	3
Low magnesium level	2
Lactic acid elevation	3
Transient uric acid elevation	3
Potassium depletion	3
Indications of liver abnormality:	
SGPT elevation	2
SGOT elevation	3
BSP elevation	2
Bilirubin elevation	2
Urinary urobilinogen elevation	2
Serum A/G ration reversal	2
Blood and blood clotting:	
Anemia: hypochromic, normocytic, macrocytic, hemolytic with stomatocytosis, low folic acid	3
Clotting disorders: prothrombin elevation, thrombocytopenia	3
ECG abnormalities:	
Cardiac arrhythmias: tachycardia; T waves dimpled, cloven, or spinous; atrial fibrillation; ventricular premature contractions; abnormal P waves	2
EEG abnormalities:	
Decreased or increased REM sleep, depending on phase	3
Loss of delta sleep	3
Other reported findings	3
Decreased immune response	3
Decreased response to Synacthen test	3
Chromosomal damage from alcoholism	3

Criterion	Diagnostic Level
TRACK II. BEHAVIORAL, PSYCHOLOGICAL, AND ATTITUDINAL	
A. Behavioral	
1. Direct effects	
Early:	
Gulping drinks	3
Surreptitious drinking	2
Morning drinking (assess nature of peer group behavior)	2
Middle:	
Repeated conscious attempts at abstinence	2
Late:	
Blatant indiscriminate use of alcohol	1
Skid Row or equivalent social level	2
2. Indirect effects	
Early:	
Medical excuses from work for variety of reasons	2
Shifting from one alcoholic beverage to another	2
Preference for drinking companions, bars, and taverns	2
Loss of interest in activities not directly associated with drinking	2
Late:	
Chooses employment that facilitates drinking	3
Frequent automobile accidents	3
History of family members undergoing psychiatric treatment: school and behavioral problems in children	3
Frequent change of residence for poorly defined reasons	3
Anxiety-relieving mechanisms, such as telephone calls inappropriate in time, distance, person, or motive (telephonitis)	2
Outbursts of rage and suicidal gestures while drinking	2
B. Psychological and Attitudinal	
1. Direct effects	
Early:	
When talking freely, makes frequent reference to drinking alcohol, people being "bombed", "stoned," etc., or admits drinking more than peer group	2
Middle:	
Drinking to relieve anger, insomnia, fatigue, depression, social discomfort	2
Late:	
Psychological symptoms consistent with permanent organic brain syndrome (see also Major Criteria, Track I,B)	2
2. Indirect effects	
Early:	
Unexplained changes in family, social, and business relationships, complaints about wife, job, and friends	3
Spouse makes complaints about drinking behavior, reported by patient or spouse	2
Major family disruptions: separation, divorce, threats of divorce	3
Job loss (due to increasing interpersonal difficulties), frequent job changes, financial difficulties	3
Late:	
Overt expression of more regressive defense mechanisms: denial, projection, etc.	3
Resentment, jealousy, paranoid attitudes	3
Symptoms of depression: isolation, crying, suicidal preoccupation	3
Feelings that he is "losing his mind"	2

symptom with alcoholism. Thus, although tachycardia might be explained by alcoholism, there are perhaps hundreds of other explanations.

When the physician finds unexplained tachycardia, however, he would be wise to activate a suspicion of possible alcoholism among his other possibilities On the other hand, if he has found Laennec's cirrhosis, his chance of uncovering alcoholism is much greater than uncovering another cause.

Likewise, if his patient has had an argument with his wife, alcoholism should be considered, at least peripherally. But if he has had three arrests for driving under the influence of liquor, his chances of alcoholism are proportionally greater.

Of the comments we received from correspondents, this one stood out:

"The criteria you have chosen seem quite reasonable and would, as far as I can tell, include all of the people whom I have seen who have suffered from alcoholism and reasonably well exclude all those who have not."

This is what we were about.

The Criteria have been a teaching instrument in Australia for physicians and in St. Louis, Missouri, for social workers, and this use has been successful. They have been translated into French, Spanish and German. Copies have been requested from the Soviet Union and from India. They have been published in state medical journals. We have had requests for well over 31,000 copies of them. They have been made available to every physician in the armed forces.

We feel that this distribution means that they will be used as a tool widely. We hope to refine and enlarge this tool by experience ratings. However, as they stand now, we hope they will be useful for the people who have the greatest opportunity to make the diagnosis and start successful treatment for alcoholism, the primary physicians.

SUMMARY:

The *Criteria for the Diagnosis of Alcoholism*, compiled by the Criteria Committee of the National Council on Alcoholism, was published originally in *The American Journal of Psychiatry*, Vol. 129, pps. 127-135, 1972, and *The Annals* of *Internal Medicine*, Vol. 77, pps. 249-258. 1972. In this paper, which gives the history and development of the Criteria, the Criteria are explained in such a way as to amplify their usefulness for the physician.

JOHN D. STEPHENS, M.D.
1917—1973

On April 6, 1973 John D. Stephens, M.D., a Juneau anesthesiologist, passed away suddenly. He was born April 8, 1917 in Leicestershire, England, the son of Surgeon Commander Frank Stephens and his wife Clara. Dr. Stephens received his medical education at Epsom and Queen Mary Colleges and the London Hospital Medical College. Special training in anesthesia was done in Canada and Texas. During World War II he served as a doctor with the Royal Navy. Survivors include his wife Pat; stepmother Mrs. Barbara Sparke of Devon, England; sons Tony, Knighton and Richard of Canada; daughters Patsy (Mrs. Garry Griddle) of Texas, and Kathy and Karen of Juneau; and eight grandchildren. Dr. Stephens will be sorely missed by the medical community, as well as the community at large.

John L. Brothem, M.D.
Secretary
Juneau Medical Society

ELECTRO-ACOUSTIC IMPEDANCE AUDIOMETRY IN SOUTHEAST ALASKA

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Development and refinement of impedance audiometry over the past 10 years has added a new dimension to the evaluation of patients with ear disease and hearing loss. Since it does not measure hearing per se, it does not replace conventional pure tone audiometry even though it can be used in some situations where pure tone testing cannot be done. Similarly, it does not replace the physician's history and physical examination, although it can provide supplemental information which can be helpful in diagnosis and treatment evaluation. It is a relatively new means of directly measuring some aspects of middle ear function which could not be objectively measured before. This paper discusses the measurements which are made with one of these instruments and the types of information they yield.

Development of impedance audiometers followed two paths. In the United States Zwislocki and colleagues developed an electro-mechanical system, while in Europe an electro-acoustic system was pursued. A Madsen ZO-72 Impedance Audiometer, an electro-acoustic instrument, was chosen for use in Southeast Alaska because of its simplicity of operation and its portability, as well as the additional information it yielded over the electro-mechanical system.

Electro-acoustic impedance testing consists of three basic measurements: 1) tympanometry, 2) absolute impedance, and 3) middle ear muscle reflex (relative impedance). The readings are made in the following manner: "A probe tip containing three tubes is sealed in the external meatus, forming a closed cavity bounded by the inner surface of the probe tip, the walls of the external meatus, and the tympanic membrane. One tube is used to deliver, into this closed cavity, a probe tone generated by a 220-hertz oscillator driving a miniature receiver. The second tube is connected to a miniature probe microphone which monitors the sound pressure level of the 220-Hz probe tone in the closed cavity and delivers the transduced voltage through an amplifier to a bridge circuit and balance meter. The balance meter is nulled by an SPL of exactly 95 dB in the closed cavity. A potentiometer on the output of the 220-Hz oscillator permits variation of the SPL over a range corresponding to a compliance variation (equivalent volume) of 0.2 to 5.0 cc. The third tube is connected to an airpump which permits variation in air pressure in the closed cavity over a range of ±400 mm (water). Air pressure is read on an electromanometer.

The receiver and probe microphone are contained in a small housing mounted at the end of a conventional headband. They are connected to the probe tip by small rubber hoses. A third rubber hose delivers air to the probe tip. At the opposite end of the headband a conventional earphone is mounted." (Jerger, 1970) An oscillator delivers pure tones or white noise signals to the ear opposite the one in which the probe tip is sealed, in order to measure threshold for the acoustic reflex.

Tympanometry is a series of measurements of the compliance (or elasticity) of the tympanic membrane as pressure in the external auditory canal is varied from positive to negative. Compliance is maximum when the pressure on each side of the tympanic membrane is equal. The curve which results from these readings also provides a measurement of the existing middle ear pressure expressed in mm of H_2O pressure. The shape of the pressure-compliance curve falls into five basic types—A, A shallow, A deep, B and C. The distinguishing characteristics of each curve are determined by 1) the height of the curve, 2) the flatness or sharpness of the peak of the curve, and 3) the pressure where the compliance reaches its peak (Figure 1).

In a type A tympanogram the most compliant position of the tympanic membrane is between 0 and -100 mm of water pressure. The type A tympanogram indicates an intact tympanic membrane with normal eustachian tube function and is found in normal ears, ears with sensori-neural hearing loss, ears with ossicular fixation (A shallow), and ears with ossicular discontinuity (A deep).

In a type B tympanogram there is little or no change in compliance over wide pressure variations and no sharp peak in the curve. Type B curves are suggestive of the following: 1) an intact tympanic membrane with a middle ear effusion, 2) a retracted tympanic membrane, 3) a tympanic membrane with a perforation or an indwelling ventilating tube, and 4) occasionally in a heavily scarred tympanic membrane which is greatly thickened. A type B curve with an intact tympanic membrane usually indicates a middle ear effusion with underlying eustachian tube malfunction or tympanic membrane retraction. Sometimes with a perforation it is impossible to obtain a seal because the change in air pressure is rapidly equalized by the eustachian tube, but when it is possible the type B tympanogram is seen. Under these circumstances, if the seal is lost when the patient swallows, the eustachian tube function is documented. Also, if a seal is obtainable with a perforation the measured volume of the external auditory canal in cubic centimeters is considerably larger than the opposite unperforated side since the external canal is then in continuity with the middle ear itself.

In a type C tympanogram the pressure at which the tympanic membrane is most compliant lies between -100 and -400 mm of water and indicates that there is a negative pressure gradient in the middle ear at that time. This negative middle ear pressure results from eustachian tube malfunction with absorption of air normally present there. Type C tympanograms are frequently seen in upper respiratory infections and may resolve to the normal type A or progress to the more abnormal type B curves.

Absolute impedance readings are accomplished by taking two input potentiometer settings, Z1 and Z2, which are expressed either in acoustic ohms or cubic centimeters of equivalent air volume. The first reading (Z1) is taken with +200 mm water pressure in the external canal, and the potentiometer of the test probe oscillator adjusted so that the balance meter reads 0. The second reading (Z2) is obtained in the same fashion after the most compliant position of the tympanic membrane has been found. Absolute impedance may be then determined by the use of the formula $Z = \frac{Z1 \times Z2}{Z1 - X2}$ or by utilizing a nomogram supplied by the Madsen Company. The normal values for absolute impedance are 900-3000 ohms or 0.3 to 1.00 cc of air. High impedance values are found in cases of ossicular fixation and middle ear effusion, or tympanic membrane retraction. Low impedance values are seen with ossicular disruption and perforation (if measurements can be obtained).

A middle ear muscle reflex causes a relative change in acoustic impedance when a loud sound is introduced into the opposite ear. "The balance meter is first nulled to zero. Then an acoustic signal is introduced to the opposite ear. If the signal is sufficient to elicit the bilateral acoustic reflex the resulting contraction of the stapedius muscle in the ear containing the probe tip will increase the impedance at the eardrum, resulting in an upward deflection of the balance meter. In order to determine the reflex threshold the tester varies the signal level until he has identified the lowest level capable of eliciting an observable deflection of the balance meter." (Jerger, 1970) The presence of the middle ear reflex is strong evidence that there is no significant abnormality of middle ear function.

DISCUSSION

With the medical history, the otoscopic and general physical examination, and pure tone audiometry, of what value is impedance audiometry? As was stated earlier, it is not meant to replace either conventional audiometry or the physical examination. While pure tone audiometry can measure hearing thresholds and can differentiate between the conductive and sensori-neural types of hearing loss, it can make no differentiation between the various types of conductive hearing loss. Impedance testing can be very helpful in this aspect because conductive hearing losses comprise the majority of hearing losses in Alaska in contradistinction to other states. Physical examination of the ear even with the pneumatic otoscope is limited to direct visualization of anatomic changes and to qualitative assessment of tympanic membrane mobility at amplitudes which exceed the normal physiologic range. Disorders such as otosclerosis, disarticulation of the middle ear ossicles, and some cases of middle ear effusion may be difficult to diagnose by otoscopic examination alone. Impedance testing can provide supplemental objective information which can be helpful in diagnosis. Tympanometry as a measurement of eustachian tube function is particularly valuable in Alaska since these problems are common. With serial testing it is possible to have objective data showing whether or not eustachian tube malfunction secondary to an upper respiratory infection is resolving or not, or whether an episode of acute suppurative otitis media has completely resolved with treatment.

There are other advantages to impedance audiometry. Testing is quick; both ears can normally be tested in less than five minutes. This is important in screening large populations and in assessing young children, mentally retarded patients, or others with a limited attention span. Also, all measurements are objective and independent of the patient's voluntary response. This facilitates its use with the emotionally handicapped, the mentally retarded, and the very young. Results can be obtained in infants as young as six months old who are obviously too young for conventional audiometry. The machine is portable, which allows it to be used as a screening tool in the field.

SUMMARY

The use of the Madsen ZO-72 electro-acoustic impedance audiometer has been described. It does not measure hearing per se but provides a direct means of assessing middle ear function. It is well adapted to serve as a screening instrument or can be used in the hospital setting. We believe it can be a great help to those who treat patients with ear disease and hearing loss.

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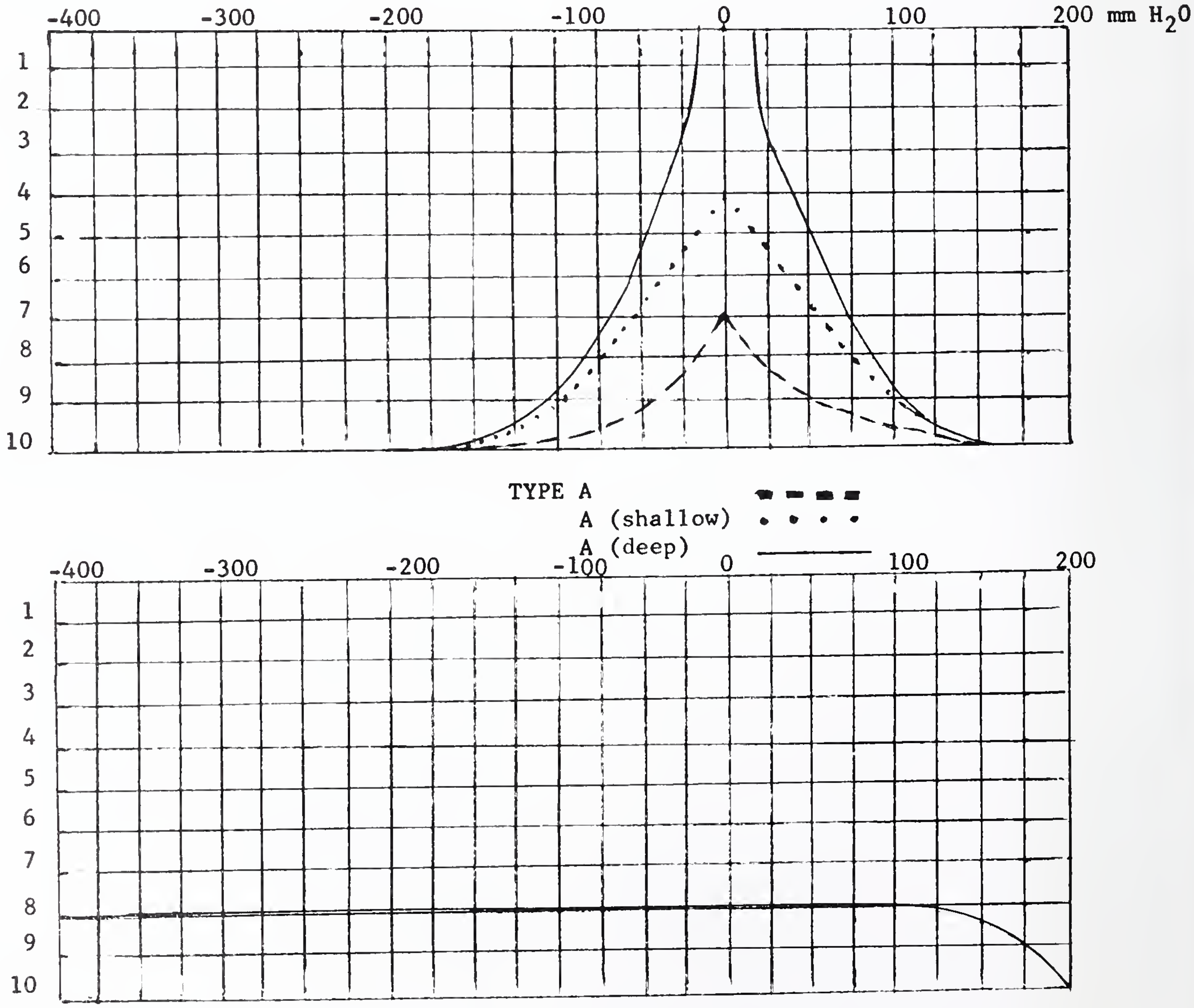
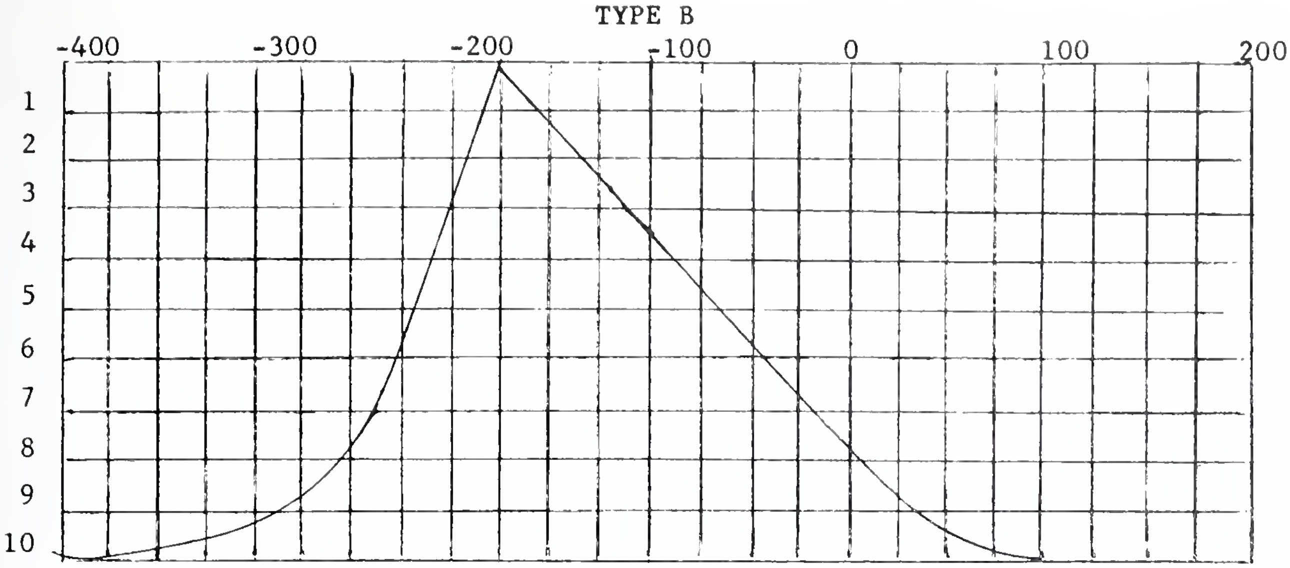
FIGURE 1

TYMPANOGRAM TYPES





TYPE C

Gerald Bush - Kenneth Behymer, M.D.

NORTHERN HIGHLIGHTS - 10

SELECTED ABSTRACTS ON MEDICINE AND PUBLIC HEALTH IN THE NORTH

Health Conditions in Greeland

Harvald, B.

Disease prevalence in Greenland. *Acta Socio-Medica scandinavica* Suppl. 6, 1972. pp 203.205.

This brief paper describes in broad terms some of the characteristics of disease prevalence in Greenland compared with Scandinavia. The author is associated with Odense University in Denmark.

The decline of tuberculosis in recent years has doubled the average mean age at death in Greenland, while at the same time it has led to more accurate reporting of disease and death from other causes.

The author compares the prevalence of various diseases in Greenland and in Scandinavia on the basis of whether the disease is caused primarily by a single gene deficiency, a genetic predisposition, or by environmental factors. In the first group he notes the higher prevalence of lactase deficiency and sucrase deficiency and the lower prevalence of Rh immunization in Greenland. In the second group, angle-closure glaucoma, epilepsy, osteo-arthrosis, spondylolisthesis, hernias, cardiac malformations, heart block, and gastric ulcer are found to be more common in Greenland, while myopia, diabetes, duodenal ulcer and arteriosclerotic heart disease are less common. In the environmental group, rheumatic heart disease and infectious diseases are more prevalent in Greenland. No supportive data are provided in the paper.

Horwitz, O.

Epidemiology of tuberculosis in Greenland.
Acta socio-medica scandinavica Suppl 6, 1972. pp 233-239.

This paper, originally delivered at the 2nd Circumpolar Health Conference at Oulu, Finland, analyzes the characteristics of the tuberculosis epidemic in Greenland between 1955 and 1970. The author is with the Danish Tuberculosis Index in Copenhagen.

Tuberculosis has accounted for a fearful morbidity and mortality in Greenland for two centuries or more. As the result of an intensive program initiated in 1950, the incidence of this disease has dropped by 90% since 1955.

The first major survey for tuberculosis took place in 1955/56 with the aid of the ship "Misigssut," which visited all the settlements along the coast. Over 90% of the population were examined by X-ray, tuberculin testing, and sputum tests. Non-reactors to tuberculin were vaccinated with BCG. A base population of 17,723 persons without active disease have now been carefully followed for 9 years.

The children with a natural tuberculin reaction and normal lungs had 10 times the risk of developing active disease as those who were vaccinated at the time of the survey. Those children vaccinated before the survey had an intermediate risk of active disease, probably due to superinfection.

Among all natural reactors, half of the children but only 1/5 of the elderly had normal lungs. Among the smaller children, 1/5 had suspicious lesions, while 1/3 of the elderly had such lesions.

Of 1,059 cases of active disease which developed over a 9 year period, half initially had a suspicious X-ray lesion. The incidence in this group was 43/1,000 person-years, compared to 17/1,000 in those with fibrotic lesions, 9/1,000 in those with calcified lesions, and 8/1,000 in those with no initial lesion. Even this latter figure is roughly the same as the incidence in Denmark among those with a suspicious chest X-ray.

Among natural reactors with normal lungs in Greenland, the rate of active disease was 32 times higher in Greenland than in Denmark; for persons with fibrotic or calcified lesions, it was 25 times higher, and for those with suspicious lesions it was 7 times higher. The reasons for this variation are probably related to a lower resistance of the Greenlanders and a higher occurrence of superinfection.

Over the 9 years, 77% of new cases came from those who were naturally infected, as opposed to those who had received BCG.

A projection of the current incidence curves to the future indicates that the incidence of tuberculosis in Greenland in 1980 will be 0.2/1,000, the same as in Denmark today. In 1985, the rate should be around 0.1/1,000, and tuberculosis should be effectively eliminated as a significant health problem.

Skinhøj, P., McNair, A.

An outbreak of infectious hepatitis in southwest Greenland, 1971. *Scand. J. Infect. Dis. 4:* 73-77, 1972

This paper reports an epidemiological and serological evaluation of a major infectious hepatitis outbreak in southern Greenland in 1970-1971. The authors are with the Bispebjerg Hospital and the University Hospital in Copenhagen.

Between November 1, 1970 and December 31, 1971, a total of 735 clinical cases of hepatitis were recorded in Julianehaab, a town of 2,700 in southwestern Greenland. The disease was introduced in October from the neighboring community of Narssaq and rapidly spread through the highly susceptible population. The epidemic peaked in August 1971 and by the time it was over, 27% of the population had been afflicted with the overt disease. The sexes were equally affected but the age distribution of cases was strikingly concentrated in the school age group 6-16 years old (51% attack rate.) Only a very few adults got the disease and most of these were Danes or recent migrants from other parts of Greenland. In the Greenlandic population born before 1947, only 20 cases were observed and every single individual had migrated to Julianehaab after 1948. Although the disease was not reportable until 1957, large epidemics were recalled in Julianehaab in 1935 and in the winter of 1947-48.

Epidemiological investigation ruled out water or foodborne transmission as a serious possibility. Instead, close personal contact and less than ideal hygienic living conditions were blamed for the rapid spread. The incubation period was estimated at 4-5 weeks. Although most cases were mild, there was one death, due to cerebral hemorrhage, and one patient with hepatic coma, who recovered. Most cases were treated with menandione to prevent bleeding. Gamma globulin was not used for prophylaxis.

A total of 276 patients were investigated biochemically. Alanine-aminotransferase (AAT) and bilirubin determinations returned to normal in 85% of patients within 4 weeks of the onset of jaundice. Immunoglobulin determinations showed an early rise of IgM to twice normal and a more moderate but longer lasting rise in IgG.

Hepatitis-associated antigen (HAA) was found in only 3/276 sera, none of them acute-phase. Antibodies could not be detected in any convalescent sera.

The epidemic later spread to other parts of Greenland, clinically affecting approximately 5% of the total population.

Olsen, G. A.

Epidemiological measures against gonorrhoea. Experience in Greenland. *Brit. J. Vener. Dis. 49:* 130-133, 1973

This short paper describes the effect of selective mass treatment campaigns on the incidence of gonorrhea in Greenland. The author is affiliated with the Gonococcus Laboratory, Julianehaab, Greenland, and the Statens Seruminstitute, Copenhagen, Denmark.

The reported incidence of gonorrhea in Greenland has risen markedly since World War II, until in 1971 the incidence of 190/1,000 was 50 times the rate in the rest of Denmark. In view of the seriousness of this situation, selective mass treatment programs were carried out in different parts of Greenland beginning in May, 1965.

The best results were achieved in southern Greenland, where all persons at special risk (those previously treated within 6 months and all single persons 15-30 years old) were examined and treated and all contacts were traced and treated as well. In the northern districts the program was less successful in part because of the difficulty in tracing contacts effectively.

Repeated mass examinations resulted in a decrease of 50% in the high risk population in the towns and 70 to 80% reduction in the settlements. It is estimated that without the mass campaigns, the incidence of the disease would have been 44% higher over the period of the special program. The effect of the mass campaigns appeared to fade 3-6 months after their conclusion.

Curiously, the sensitivity of the gonococcus to antibiotics actually increased during the course of the campaigns.

Berg, O.

IUD's and the birth rate in Greenland. *Studies in Family Planning 3:* 12-14, 1972

This paper describes an eminently successful family-planning program in Greenland using intra-uterine devices. The author was serving as health officer in the Narssaq District of Greenland during the time of the program.

Greenland, at the time of the census in 1965, had a very low median age (16) and an extremely high birth rate. One third of all births were illegitimate and 28% of all deaths were in infants. The only methods of birth control in use were pessaries and condoms, but neither method was widely accepted.

In the fall of 1966, after a preliminary study by Dr. Rosen of Copenhagen, a family planning program using Lippe's Loop was initiated in all 17 Greenland Medical Districts. This paper describes the results in Narssaq, with 5% of the island's population.

An intensive program of public information was carried out, using newspaper articles, posters, lectures, and other means. Acceptance was widespread and generally enthusiastic. The author found that 33% of the estimated number of Greenlandic women in the fertile age groups accepted an IUD. The number of births per year in Narssaq plummeted from 85 in 1967 to 45 in 1968 to 34 in 1969, despite an in-migration to the community. The estimated number for 1970 was 25 and the local midwife is now operating a taxi in her newly-found spare time.

For the nation as a whole, it is estimated that 25-30% of "eligible" women received an IUD, and that the birth rate dropped from about 40 per 1,000 to 30 per 1,000.

Rønn, G.; Andersen, S.

Dextrocardia in Greenland. *Acta radiologica diagnosis 12:* 161-163, 1972.

This brief paper reports on the occurrence of dextrocardia in Greenland based on mass radiographic surveys for tuberculosis between the years 1955 to 1968. The authors are with the Department of Tuberculosis, Dronning Ingrids Hospital, Godthaab, Greenland.

In the annual X-ray surveys of the ship "Misigssut" since 1955, approximately 50,000 subjects have been examined, including virtually the whole West Greenland population. A total of 11 Greenlanders, 7 men and 4 women, were found to have dextrocardia, or 0.29 per 1,000. This figure is some 3 times the rate reported in the population of Copenhagen in 1950. No familial occurrence could be proved, but it is suspected that the higher prevalence in Greenlanders is racially determined. Congenital heart malformations are also reported to be unusually common in Greenlanders.

—Robert Fortuine, M.D.

Letter to the Editor

November 12, 1973

Subject: The Prison — A Reply

Dear Sir:

In response to Dr. Lee's critique of my paper, "The Prison; A Village View of the Hospital," I agree with him that the Alaska Native Health Service (ANHS) has taken many positive steps toward providing better care and, like him, I am equally concerned that this service be improved. What I observed prompted me to write the paper in hopes it would help hospital people be more sensitive to the way villagers view the hospital. That Dr. Lee refuses to acknowledge this view is further evidence of the wide gap in understanding which exists between ANHS and the people it serves. It is not necessary for me to defend the view I described, Native Alaskans can do this far better than I, but they must be given the opportunity to speak and they must be listened to. In this regard ANHS would do better to hire people who will listen to and act upon client needs as they perceive them rather than defend the status quo as Dr. Lee has done.

Sincerely,
Michael S. Cline
Noorvik, Alaska

BOOKS RECEIVED

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THE RELATION OF CLIMATE TO THE EPIDEMIOLOGY OF INFECTIOUS DISEASE AMONG ARCTIC POPULATIONS

Karl R. Reinhard, D.V.M., Ph.D.

Through the years the epidemiological characteristics of the Western American Arctic have changed greatly, due to immigration, industrialization, urbanization and technical advances which have profoundly altered human ecology. The epidemiological picture now resembles that of the more concentrated human populations in the northern temperate zones. The population has increased in size to such an extent that it is almost totally dependent upon the more productive industrial and agricultural regions of warmer climes for its essential commodities, thus complicating even more the correction of the health and social problems of the economically deprived groups.

INTRODUCTION

Our concern is for a large region of the world which has been torn from a "hunting economy" and pushed into the world of today within a hundred and fifty years. The same process took the Western World several thousand years to accomplish. Consequently, the troublesome social aftermath of the transition is still with us and probably will be for an indeterminable length of time. This has happened because the forced change has been superficial and incomplete, and has left a valuable people at a social and economic disadvantage which secondarily generates ill health, persistent disease and much physical and psychological disability.

BASE CONCEPTS

From the ecological standpoint, one can view serious disease problems as results of imbalance in which the parasite (or agent) population, for some reason, supervenes over the defenses of the host population. Perhaps the aggressive powers of the agent population are excessive, or the defenses of the host population are weak, or the operating environmental factors favor the agent more than the host. When the three are in balance, infection of hosts may occur, immunity may develop, but an overt disease problem seriously affecting the status of the population does not occur. The more successful parasites excel in affecting balanced dynamic relationships with the host population and the rest of the environment, without resultant disruptive disease outbreaks and population alteration. But, should an imbalance occur in the equilibrium of these three factors, serious disease problems and excessive death rates may occur. The descriptions of these relationships are oversimplified in this presentation, for we do not have the time to go into lengthy exposition. But the factors exist in reality and their balances and interactions produce the events of the bionomics of disease.

Because of differences in biological characteristics, agents vary greatly in capabilities for persistence, penetration and extension through the population. Some, like influenza virus, move characteristically in epidemic waves. Some, such as enteroviruses and tuberculosis organisms, can persist in localities as well as to move along with migrating human populations. Some, like helminths, malaria and arboviruses, are highly dependent upon specific bionomic associations, which restrict and demarcate their bionomic range.

The condition of human populations and subgroups has much to do with the prevalence and severity of disease. The socio-ecological studies over the years have demonstrated, time and time again, that an increased amount of

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From the Health Program Systems Center, Indian Health Service, Tucson, Arizona.

This is a condensed version of a paper delivered to the Climate and Man Section of the 24th Alaska Science Conference, held at the University of Alaska, Fairbanks, in August 1973.

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disease and an increased death rate are associated with vital resource deprivation. The notable exception, in some studies, has been arteriosclerotic heart disease, which may be a more serious disease among the affluent, nonlaboring classes.

Other epidemiological facts we must consider are population distribution and density. These affect the rate and extent of opportunity for the transmission of agents of disease. These demographic factors also have a determinant effect upon the spectrum of agents which can remain circulating in the population, for there is variation among pathogenic agents, and particularly viruses, with regard to the interval at which they must become re-established in a host for survival and propagation. Population distribution and density also determine the degree of environmental change which will occur as a result of human habitation and activity.

The more profound effects of climate on the security and health of mankind are indirect, and mediated through the biological effects on those factors in the environment that support human life directly—the flora, fauna and other natural items and conditions that mankind needs for comfort and sustenance. In addition, climate has important effects on the production, dissemination and persistence of agents of disease.

The climate of the Arctic is such that the region cannot produce plants and animals in sufficient quantity and at a sufficient rate of renewal to support large populations of man. Man is too voracious and has too large a need and desire for energy and materials to exist in the north in the quantities found in temperate and tropic regions. Where man does exist in large concentrations in the Arctic, the population must be sustained by the importation of items from the more productive southerly regions.

THE "NATURAL" SITUATION

Prior to the nineteenth century, Arctic Man in the Western Hemisphere probably led a relatively natural life, in balance with other components of the environment. The population groups were relatively small, sometimes only extended families, and the habitations were at sufficient distance from each other to provide adequate range for gathering and hunting of food and other subsistence items. The life style was usually seminomadic. Shelter was portable or constructed from local materials. The "permanent" dwelling was often uncovered, when not in use, to allow sun and wind and rain to perform their salutary tasks. The balance between man and the rest of the environmental factors was fairly delicate and at times precarious. If animal migrations failed or shifted, or if continuous south winds for a season kept the game-laden ice pack beyond hunting reach (as happened to the people of Sevuokuk in 1878-79), famine and associated disease occurred and people starved and died. Man depended greatly upon favorable natural events, including the climatological, in order to persist and to prosper.

Under these conditions of life, what might the disease experience of American arctic peoples have been in the times before the Russian-American Company? We have some observations from the past and present to indicate the probable history. As mentioned before, it is reasonable to assume that some highly persistent agents, particularly those which can remain within hosts for months or years, such as tuberculosis organisms, enteroviruses and the like, accompanied the population segments of man that originally penetrated into and habitated the Arctic. It is reasonable to assume that, despite the endemic presence of these disease agents, Arctic Man persisted and prospered because his migratory way of life, low density of population, and small groupings did not allow rapid propagation of the agents and intensification of foci of infection. Mankind and its parasites probably lived in balance as interacting parts of the environment.

According to the astute studies of archeological anthropologists, Western Arctic Man was not entirely cut off from the rest of the world. There was contact between the peoples of the northwest American Arctic with coastal and inland people of two continents; therefore, a continuous, albeit tenuous, chain of contact with the larger populations of temperate regions existed. Consequently, the agents of disease which could not persist well due to the distribution and density of arctic populations probably were introduced from time to time, through unusual circumstances which provided sufficient opportunity for continuous serial transmission from the periphery. This is well illustrated by the fact that the disastrous smallpox epidemic which started in one focus in the Alaskan archipelago in 1836, penetrated as far as the Seward Peninsula, and perhaps to the northern interior of Alaska in the course of 10 or 12 years. Furthermore, the time of introduction followed closely the time of known raging epidemics of smallpox among the Indian people living at lower latitudes. Early explorers who reached remote, interior arctic populations long before the intrusion of masses of adventurers from Europe and the United States, mention respiratory problems, nosebleeding, skin diseases, pediculosis, asthma, rheumatism, gastroenteritis, fits, paralysis and early senility as observed disease conditions among the Eskimos and Indians. It has been reported that the famous Captain Cook, in recounting the events of his exploratory voyage of Alaska in 1778, stated that some of his crew had picked up syphilis as a result of contact with residents of an Aleutian village. The characteristically epidemic diseases, such as colds, measles and influenza, which could not persist biologically in the small, discontinuous arctic populations, disappeared in remote population groups for seasons or for years, until chance reintroduction.

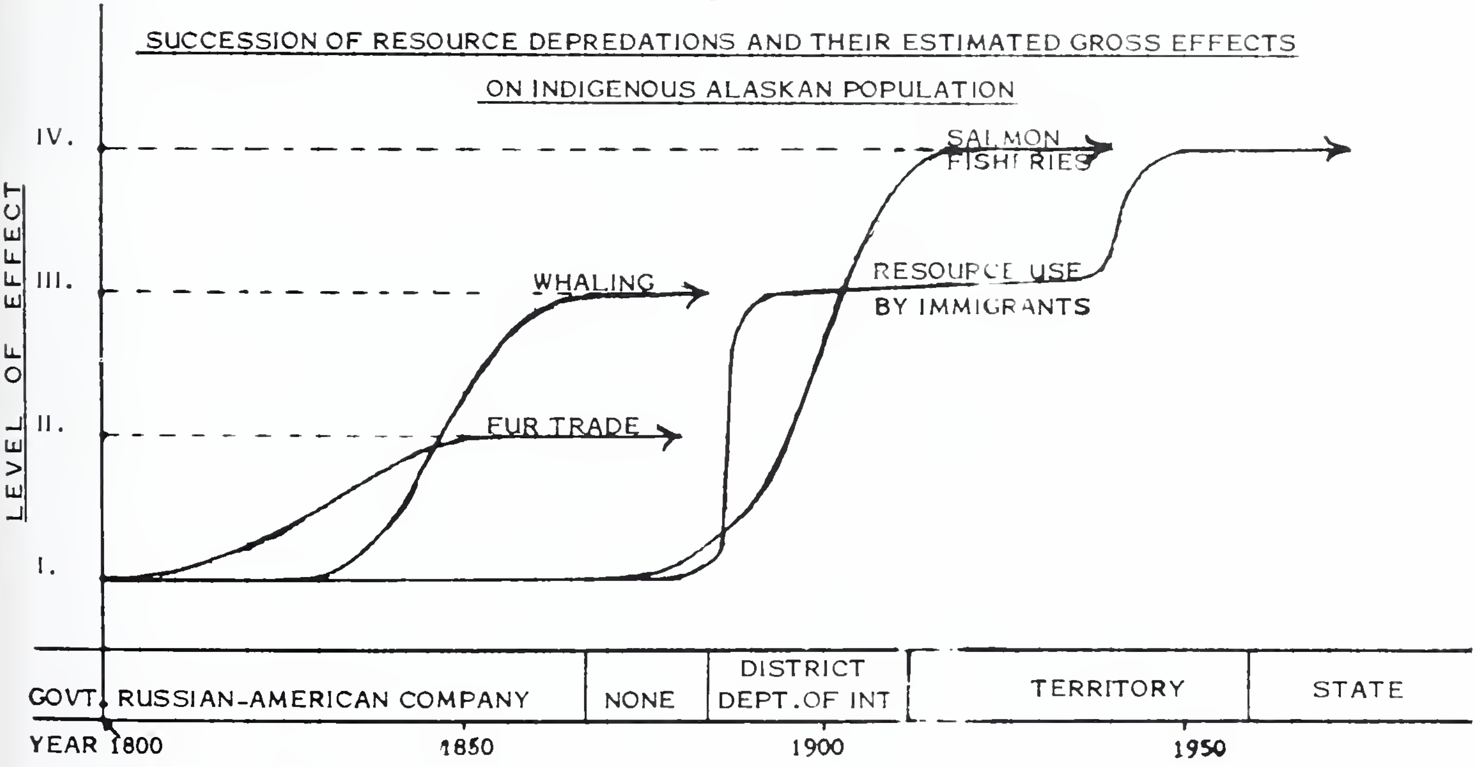
FACTORS AND RESULTS OF CHANGE

If such was the original nature of the life and health of Arctic Man, what could have brought about the serious health situations which became evident around the 1850's and grew until the very existence of Alaskan Natives was threatened? The answer given here is commercial exploitation which deprived native Alaskans of their resources, coupled with an ecological situation, caused primarily by climate, which made alternate resources sparse or unavailable. The combination of conditions caused abject poverty, social depression and severe disjointment of the round of life of native Alaskan people.

Figure 1 illustrates grossly the major depredations of the resources of people of the northwestern American Arctic since the start of the Russian-American Company in 1790. The first arctic commercial interest was the skins of animals, both terrestrial and marine. At first, the fur industry was coastwise, but eventually it penetrated along the rivers into the interior, and one animal species after another became threatened with gross reduction or extinction, particularly the sea otter and the fur seal. Not only did this industry make adequate clothing procurement harder for Alaska Natives, but immense quantities of potential food were destroyed by the discard of animal carcasses. Furthermore, those native people who became incorporated in the industry were sometimes impressed into servitude. At no time did they receive equitable economic returns to compensate for the loss of their life-supporting resources. In addition, oppression and recurring massacres of the Aleuts almost led to their genocide. The departure of the Russian-American Company in 1867, coupled with exhaustion of the more desirable fur sources, caused the fur trade to diminish, but it remained substantial into this century.

The next wave of resource depredation came with the whalers. From New England, and eventually from the immense San Francisco whaling fleet, came ships that hunted ever more norther-

Figure 1



LEVEL I.	No Significant deleterious effect on sustenance of indigenous population
LEVEL II.	Moderate deleterious effect on sustenance of part of indigenous population
LEVEL III.	Serious deleterious effect on sustenance of part of indigenous population
LEVEL IV.	Serious deleterious effect on sustenance of most of indigenous population

ly. In the early 1800's whaling intensified in the North Pacific and Bering Sea. In 1848, one ship passed the Bering Straits, and harvested a bumper crop. The next year, 30 or more ships entered the Arctic Ocean, north of Alaska, in hot pursuit of the whale. The arctic fleet built up to 50 ships or more, until 1881, when 33 of the group were caught and crushed in the ice. In 1884, 13 out of 20 met the same fate. Arctic whaling then declined rapidly because there were few whales left to hunt and the effort was not financially worth the risk. The last whaler voyage in the Alaskan Arctic occurred in the 1920's.

The effect that the depredation of whales had upon arctic people was recorded in a brief entry in Ray's report of a meteorological expedition to Point Barrow around 1880. His remarks were generated by a visit to the village of Uglaamie. The following is a composite quote and extract:

> This race is rapidly decreasing. In Uglaamie, in 2 years, 18 deaths and only 2 births occurred in a population of 130 people. [In 1854, the village population was 286]. Now there are only half as many occupied uglus [as in 1854] and many fresh body caches [graves]. Famine and disease have been at work. The food supply is rapidly growing less. The great number of whales taken off the coast in the last 20 years by the American fleet has nearly exterminated that valuable animal. In 1854, 24 whales were taken by the natives of Barrow. During our stay [2 years] only two, one a calf, were taken. Seals are not numerous and often absent for a season. Some seasons a few belugas are taken.

He commented further that the people were unable to adapt to these conditions, that hunger occurred commonly, that the more destitute people came to the expedition station to beg for food, and that the station staff gave them all that could be spared.

The human and animal genocidal effect of whaling was aggravated by the fact that the whales were tracked and hunted south into their breeding grounds, so that there was no haven free of the harpoon and bomb-lance. As side effects, the whaling industry produced other depredations of marine animal resources, especially as the whale population declined and the crews turned to the harvest of other animals in order to make the voyage profitable. The walrus was taken for oil and for tusk ivory. Seals were taken for skins and oil. Polar bears were taken for the fur.

Ray, who was cited previously, discussed the value of the walrus to the people and commented on the indiscriminate slaughter by whalers. John Muir states, in his book of observations covering a voyage of the *Corwin* in the Bering Sea in 1881, "Here also, the whalers, when they have poor success in whaling devote themselves to walrus hunting, both for the oil they yield and for the valuable ivory." He states that the walrus were killed in great numbers—"like cattle in a barnyard." He commented on the gross waste, stating that the walrus was killed for his tusks, like the buffalo was killed for his tongue.

The next resource depletion was fish life, especially the salmon. The Russian-American Company started commercial salmon fishing as a sideline. But the production of salted salmon was not great, and it was shipped for consumption by the gourmet-rich in the mother country. The cod banks of southeastern Alaska and the Bering Sea were the first targets of a relatively small fishing industry. Commercial salmon fishing did not become substantial until the late 1800's, possibly because earlier the Washington-Oregon region of the United States was being exploited and was extremely productive. When salmon in the latter area were nearly exhausted by exploitation, the industry moved north, and the great Alaskan salmon depredation began. The native people had used relatively inefficient methods, which were adequate for their needs, to harvest a portion of the great salmon runs. But commercial salmon fisheries decimated salmon populations by such methods as stream damming and fish trapping, which allowed very few to pass on and spawn. As the industry moved north, not only were coastwise native people deprived of nutritional resource, but people living along the great rivers also found their staple food hard to obtain. The pitiful situation is described well in a report by Emmons, in 1903, to President Theodore Roosevelt. I quote:

> Along the great river systems of the Yukon and Kuskokwim the natives are more settled in character, from the dependence upon the water for their food, although hunting must supply its share of the larder and the clothing. Those nearer the seaboard can under ordinary circumstances, count on a sufficiency of fish, but with the ascent of the stream and the many tributaries attracting the fish the run becomes very limited, until those far inland, with every effort, find it difficult to procure enough to carry them through the winter, and when bad seasons occur or sickness prevents work, famine and suffering follow. Existence in the northland has always been a struggle with nature, which is emphasized by the limited population. With the discovery of the Klondike, the Yukon River became the great highway of travel. Steamboats ply its waters, the shores have been traversed by an army of prospectors, who have driven away the game. The demand for dog food has so increased that white men, with more improved appliances, have already drawn upon the limited supply of salmon, and in some instance have, through force, appropriated the fishing grounds of the natives and driven them away.

> The condition of the Copper River Indians is exceptionally miserable, and of all of the native people, either coastal or interior, they are most needy and in want of immediate assistance. Reduced in number to hardly more than 250 souls, scattered in small communities along the river valleys, amidst the loftiest mountains of the continent, under severe climatic conditions, their natural living has been taken from them by the white man without the establishment of any labor market for their self-support.
>
> Prior to 1898 they lived in a very primitive state, and were just able to maintain themselves on the not ever-abundant game life in the valley, together with the salmon coming in from the sea for spawning purposes. But the mining excitement of that year brought a rush of fully 4,000 prospectors who literally swept the country clean, denuding it of life, burning over great tracts of forest and often destroying what they could not use; at the same time the salmon canneries in Prince William Sound, having exhausted the home streams, extended their operations to the Copper River delta, thereby decreasing the salmon catch which had always been their main dependence for the winter supply of food. And so by a combination of circumstances they have been reduced to a pitiable condition of destitution and semistarvation, which are fast sapping their vitality and increasing the annual mortality.
>
> They are a simple, kindly race, who have ever held out the hand of friendship to our people, and in return they have been deceived and imposed upon to the limit of endurance.

It is reasonable to assume that the depletion of marine and river-borne food resources forced the native people to increase the hunting pressure on terrestrial animals, particularly the large ruminants (caribou, moose and deer). We do know that even today those people who depend upon game for subsistence must range great distances in search of these animals.

The crowning insult to the natural economy of Alaska arose from the great rush of Americans, Europeans and Orientals, seeking fortunes in digging gold or in digging gold out of the pockets of the gold diggers. Gold, in itself, was not a natural resource for native people. But valuable resources were destroyed as a result of the fantastic influx of population, the leveling of forests, the pollution of streams, and the greatly increased subsistence-hunting pressure on both terrestrial and aquatic animals. The tundra, forests, streams and seas which once had teemed with available sustenance for Arctic Man, became inadequate to support even a small hunting and gathering culture. To compound this problem, the commercial exploitation of Alaska produced little visible means of support for the indigenous people. Even today only 10 percent of the native Alaskans have permanent year-round gainful occupation. Few of these people could be considered part of the middle class.

RESULTS AND CORRECTION

I have not recited these fairly shocking expositions of what has happened to native resources in order to raise a guilt complex in the non-Natives. We have sufficient numbers of social activists at work nowadays to do that, and I have empathy for their causes. Furthermore, we have the advantage of hindsight and have no right to be self-righteous, since we also are currently producing ecological problems which will plague future generations. The facts are shocking because we can recite in a few minutes the ecological disruptions which occurred gradually and insidiously over a period of 150 years and which could be perceived only poorly by a few individuals among the several generations of people caught up in the changes. Were many of us not acutely aware of the frightening cost of environmental destruction all over the world, we might still be little concerned about the depredations that nearly caused the genocide of Western Arctic Man.

The net effect of all these disruptive ecological changes was that the indigenous population of Alaska entered this century in an economically deprived and displaced state. The consequent, appalling status of their health persists to the present time, although some of the important disease conditions, notably tuberculosis, and some preventable diseases of childhood, have been reduced greatly in recent years. Considering what is now known about the relationship between poverty and disease, it is a small wonder that the natives of Alaska should have reached such a state after a hundred years of increasing deprivation of the means of subsistence. Poverty, and all that it means to housing, nutrition, sanitation, education and self-esteem, results in increased disease and disability, and the latter in turn aggravate the state of poverty, creating a vicious cycle of poverty disease, disability and an elevated death rate.

As comparative studies of the effects of medical services continue, it is becoming evident that customary episodic medical care and preventive medicine activities will not bring the health status of poverty-stricken people even to the level of the general population, and certainly, not to the level of the middle and high economic classes. The economic environment of the people must be improved to eliminate inequities in health status—and this cannot be accomplished by welfare and forced relocation. The innate ability of the people to compete in the economic system must be improved, and from the sociological standpoint, it is best that economic development take place, as much as possible, at the local community level, lest even greater social maladjustment occur than has in the past. It is easy to see then, that bringing the health of the native Alaskan to even the level of the general population will not be easy and will not be a matter of merely providing clinics and hospital beds. I hasten to add, however, that Native communities are a long way from being saturated with staff and facilities for customary health care. Improved, more accessible, and more efficient care is still needed to reach the health status that medical service alone can produce. Beyond that, improvement of health depends upon socioeconomic and community development.

CURRENT STATUS, FUTURE PROSPECTS

Considering the climate and other ecological determinants, the current population of the Alaskan Arctic can be maintained only by obtaining subsistence and utilitarian items from the industrially and agriculturally productive parts of the world. Most of the population, other than the Native, is protected and supported logistically by housing, transportation and communication of the most modern types, all of which generate great energy and commodity demands. Even Native communities are now dependent on outside procurement of materials and energy requirements.

Epidemiologically, the population is coming of age. Very few communities are truly isolated. The seasons free of acute infections are no longer a fact, and the epidemics of diseases that have skipped a generation are truly rare. The epidemiological picture, generally, resembles to a large extent that of the rest of the United States, because of the constant interchange of people and the continuing increase in size of communities. The grinding poverty experienced by a large proportion of the Native people, the trend towards increase in community size and density (coupled with decrease in numbers of communities), will aggravate the endemic as well as the epidemic disease experience. So, while communities may be easier to reach, we can expect a relative increase in need for health services as they grow. Overall, death and disability rates may decrease as health care becomes more accessible. But we may expect that within a few years the irreducible level of disease among the socioeconomically deprived will be reached, beyond which there will be no substantial improvement until social and economic inequities have been corrected. This is a peculiar conclusion for a medical scientist to reach, and it is not orthodox epidemiology. But epidemiology, of necessity, is developing into an ecological science. Social and economic conditions are major factors in human ecology; therefore, they are now major factors in the development of epidemiological projections, along with other ecological determinants.

SUMMARY

This paper presents hypotheses to explain the marked decline in the health of indigenous populations of the Western American Arctic which became evident in the mid-nineteenth century and continued to deteriorate for nearly a century. The exposition of causes of this prolonged, multi-etiological epidemic is addressed to the commercial predation of vital resources, and general ecological state governed mostly by climate, which provided no alternate, local sources of adequate sustenance for indigenous populations. The net results were the reduction of the socioeconomic status of most Alaska Natives to that of abject poverty, followed by greatly increased morbidity, disability and mortality due to numerous causes. Increased medical services have brought considerable improvement in Native health in recent years, but the full correction of health problems is beyond the capabilities of health care alone; rectification of health status requires socioeconomic parity for the indigenous population.

BIBLIOGRAPHY

To conserve publication space, a bibliography is not presented here. It may be obtained from the full paper published in the Proceedings of the Alaska Science Conference, or may be obtained by request from the author.

HYPERTENSION: THE SEARCH FOR CORRECTABLE CAUSES

William W. Quick, M.D.
David W. Templin, M.D.
Paul L. Eneboe, M.D.
Francis Flaim, M.D.
and Robert Crooks M.D.

Recent emphasis on hypertension as a pharmacologically and surgically treatable disease has resulted in aggressive case-detection programs that have uncovered numerous asymptomatic hypertensive patients. Studies have strongly suggested that control of hypertension can markedly reduce the morbidity and mortality associated with elevated blood pressure.[1] In view of these well-publicized facts, the "correct" extent of laboratory and radiographic evaluation can become a perplexing problem. Large amounts of time and money are expended in what may sometimes appear to be a futile search for some esoteric correctable lesion.

In the past six months, we have encountered three cases of hypertension with conditions amenable to surgical therapy. These cases are presented to demonstrate that the search is warranted in selected cases of hypertension.

CASE REPORTS

Case 1: M. D., a 32-year-old part-Aleut woman from Ninilchik, Alaska, was known to be normotensive as recently as December 1972. She presented to her personal physician (P.L.E.) in July 1973 with fatigue and throbbing headaches. There was no personal history of renal disease and no family history of hypertension, stroke, or heart disease. On examination, her blood pressure was 170/110, and she was found to have a right-sided abdominal bruit. She was referred to the Alaska Native Medical Center where the blood urea nitrogen, creatinine, and creatinine clearance were normal. An intravenous pyelogram demonstrated slightly delayed filling of the right kidney; subsequent renal arteriograms showed a stenotic lesion of the right renal artery, consistent with fibromuscular hyperplasia. The results of renal vein renin determinations are shown in Table 1, the right side showing an increase of approximately five times the normal value. The patient was later admitted to Providence Hospital in Anchorage and underwent reconstruction of the right renal artery on October 20, 1973. Her postoperative convalescence was uncomplicated, and her blood pressures one month later were normal. She had taken no medications since her discharge from the hospital and was asymptomatic.

Comment: Stockigt has suggested that a renal vein renin differential of 1.5 times that of the normal side is diagnostic of renovascular hypertension.[2] This patient met the criteria requiring a vigorous and intensive workup of her hypertension: she was young, had had sudden recent onset of moderately severe hypertension, was without complicating diseases such as diabetes, pyelonephritis or obesity, and had a negative family history of hypertension.

Table 1.
Renal Vein Renin Studies

Patient M. D. (Right renal artery stenosis, secondary to fibromuscular hyperplasia):

IVC*, proximal to renal veins	1.2 ng/ml/hr
Right renal vein	6.8 ng/ml/hr
Left renal vein	1.3 ng/ml/hr
IVC, distal to renal veins	1.2 ng/ml/hr

Patient N. L. (Atrophic right kidney, probably secondary to tuberculous scarring):

IVC, proximal to renal veins	0.68 ng/ml/hr
Right renal vein	2.20 ng/ml/hr
Left renal vein	0.67 ng/ml/hr
IVC, distal to renal veins	0.52 ng/ml/hr

(* Inferior Vena Cava)

Case 2: N. L., a 50-year-old Athabascan Indian woman from Nenana, Alaska, was evaluated for hypertension in June 1973 at the Alaska Native Health Center, Fairbanks by one of us (F. F.). Her past history included hospitalization for pulmonary and renal tuberculosis in 1962. The duration of her hypertension is not known, but a previous blood pressure recording was elevated in March 1971 (150/100). Her blood pressure was 194/110 and BUN, creatinine, and electrolytes were normal.

From the PHS Alaska Native Medical Center, Anchorage (W.W.Q. and D.W.T.), the PHS Alaska Native Health Center, Fairbanks (F.F.), and the PHS Alaska Native Hospital, Tanana. (R. C.). P.L.E. is in private practice in Homer, Alaska.

Urinalyses showed one-plus and two-plus proteinuria. An IVP showed a nonvisualizing right kidney, and compensatory hypertrophy of the left kidney. She was transferred to the Alaska Native Medical Center where renal arteriograms revealed a nonfunctioning right kidney with atrophic vessels. Renal vein renins were as indicated in Table 1. It was thought that the findings were consistent with tuberculous damage to the right kidney, with secondary vascular changes, although primary renal arterial disease could not be excluded. After considerable discussion among her physicians, the patient was given the choice of right nephrectomy or a trial of antihypertensive therapy; she chose the former. The right kidney was surgically removed on September 24, 1973. Postoperatively, she became, and has remained, normotensive. Her only medication is chlordiazepoxide (Librium).

Comment: This patient's evaluation may perhaps be considered excessive in view of her age and the uncertain duration of her elevated blood pressure. The IVP revealed a surgically correctable lesion; the arteriogram and renin studies were obtained to document further the presumed causal role of the atrophic kidney.

Case 3: J. S., a 29-year-old Caucasian woman who had been normotensive in March 1972, was seen for headache in March 1973 at the Tanana Alaska Native Hospital by one of us (R. C.). A pheochromocytoma was discovered, and subsequently removed at Providence Hospital on April 24, 1973.[3]

Comment: Again, this case demonstrates the need for evaluation of patients with the sudden onset of hypertension without an antecedent history.

DISCUSSION

Surgically correctable causes of hypertension are listed in Table 2. These conditions can only be found if hypertensive patients are thoroughly evaluated; on the other hand, it is obvious that not every hypertensive patient can receive (or needs) an expensive and time consuming evaluation. Patients deserve a comprehensive workup if they are previously known to be normotensive and then suddenly develop hypertension (particularly hypertension which is difficult to control medically). In young adults, the presence of complicating factors such as pyelonephritis, diabetes, obesity, and positive family history of hypertension should not deter the physician from his evaluation. Blood pressure readings in both arms and in the lower extremities, auscultation for bruits, chest X-Ray, BUN, creatinine clearance, serum sodium and potassium (without antihypertensive therapy), and a two-hour postprandial blood sugar should be performed. Since urinary catecholamine and adrenocorticosteroid studies are readily available, these should be obtained in any patient in whom there is any suspicion that a pheochromocytoma or adrenocortical tumor might be present. In general, it is customary to obtain an IVP as part of the workup of hypertension, although it should be realized that this procedure is not without risk, especially in elderly and ill patients. Arteriograms, renal vein catheterization, and other more complex studies should be performed only when routine findings increase the suspicion that surgically correctable lesions exist.

Table 2.
Surgically Correctable Causes of Hypertension

1. Renal
    A. Vascular: Renal artery stenosis (fibromuscular hyperplasia or dysplasia, atherosclerosis).
    B. Parenchymal: Unilateral pyelonephritis, obstructive hydronephrosis, or atrophy from other causes.
2. Endocrine
    A. Adrenal tumors: Aldosterone-secreting (Conn's syndrome), pheochromocytoma, Cushing's syndrome.
    B. Pituitary tumors: Eosinophilic adenoma (acromegaly), basophilic adenoma (Cushing's disease).
    C. Renal tumors: Renin-secreting.
3. Coarctation of the aorta.

SUMMARY

Three patients with hypertension who had surgically correctable lesions are presented with a discussion of the criteria which should lead one to look for these lesions. These cases also demonstrate the value of close cooperation between physicians in private practice and in the Alaska Native Health Service, both in outlying communities and at the referral hospitals in Anchorage, in the diagnosis and management of Alaskan patients with correctable causes of hypertension.

ACKNOWLEDGMENTS

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EPINEPHRINE-PRODUCING PHEOCHROMOCYTOMA FROM PROBABLE NON-ADRENAL SITE

Thomas C. Wood, M.D.

INTRODUCTION

Pheochromocytoma is a rare cause of surgically correctable hypertension. The following case is of particular medical importance because the tumor in this patient produced solely epinephrine and is thought to have arisen from an extra-adrenal site.

CASE REPORT

J. S., a 29-year-old white female, was referred from Tanana, Alaska, for evaluation of headaches and hypertension. In June of 1971 the patient was briefly evaluated at the PHS Alaska Native Hospital in Bethel, Alaska for complaints of frontal headaches. She had a long standing history of posterior occipital headaches associated with tension, but in 1971 the headaches had become more frequent and more severe with the pain radiating into the frontal region. At that time her blood pressure was recorded at 150/100. She was treated with hydrochlorothiazide 50 mg daily, with relief of her headaches and apparent normalization of her blood pressure.

In March 1973 the patient again sought medical attention because of increasing frontal and bitemporal headaches frequently accompanied by vomiting. She complained of nervousness and had undergone a voluntary 13-pound weight loss in the preceding four months. Serial blood pressure recordings ranged between 140/95 - 240/120. Physical examination revealed a questionable flame hemorrhage in the right eye, but was otherwise unremarkable. Normal laboratory work included a complete blood count (CBC), blood urea nitrogen (BUN), serum electrolytes, T3, T4, and 24-hour urinary 17-hydroxy- and 17-ketogenic corticosteroids. Urinalysis showed 1+ proteinuria. A 24-hour urinary vanillylmandelic acid was 76.1 (normal .6-6.8 mg). Lumbar puncture showed normal pressures and manometrics, and a normal cell count, protein and glucose. Poster-anterior and lateral chest X-ray, skull X-rays, and intravenous pyelogram were all normal. Birth control pills were discontinued and hydrochlorothiazide 50 mg and phenobarbital 30 mg were prescribed twice daily. Blood pressure was reduced to 150/90-100; however, there was no change in her headaches.

When seen in Anchorage, additional history was obtained that the patient had always been somewhat thin and nervous, but in the four to five months prior to hospital admission had developed excessive perspiration and mild heat intolerance. Her nervousness was accentuated by the use of Actifed ®, but was otherwise not paroxysmal. A maternal grandmother had a history of hypertension and an undefined type of mental illness.

Physical examination revealed a thin, anxious white female with multiple freckles over her entire body, but specifically excluding the axillary regions. No *cafe au lait* spots could be identified. Supine blood pressure was 130/80, upright 114/70. Pulse was 84 without postural change. Funduscopic examination revealed no evidence of the previously described hemorrhage in the right eye. There was slight tenderness over the left maxillary sinus. Jugular venous pulses were clinically normal, her thyroid palpably small without nodules or tenderness. The chest was clear to percussion and auscultation. Cardiac examination demonstrated inspiratory splitting of the first heart sound, physiologic splitting of S2. A Grade I-II/VI early and mid-systolic murmur was audible at the left sternal border without radiation. The abdomen was scaphoid without palpable masses, tenderness, or organomegaly. No bruits were audible in either the abdomen or the costovertebral angles. Pelvic and neurologic examinations were normal.

Laboratory date showed hematocrit 40%, white blood cells 10,300 per cu. mm., with a normal differential, erythrocyte sedimentation rate 22 mm, urinalysis normal (without proteinuria), SMA-12 normal (specifically without elevated calcium), serum electrolytes normal, creatinine 0.9 mg per 100 cc, and and glucose tolerance test: fasting 111 mg %, ½ hour 214 mg %, 1 hour 164 mg %, 2 hours 88 mg %, 3 hours 59 mg %, 4 hours 87 mg %, 5 hours 87 mg %. PA, lateral and oblique chest X-rays were normal. Sinus X-rays revealed hypoplastic frontal sinuses. Brain scan, thyroid scan and oral cholecystogram were all normal. Twenty-four-hour urinary VMA 100 mg (normal 0.7-6.8 mg), 24-hour urinary metanephrines were 70 mg (normal 0.3-0.9 mg), and 24-hour urinary catecholamines were 563 and 2980 mcg (normal 135 mcg). The qualitative urinary catecholamines showed only epinephrine.

After performance of the above diagnostic studies, the patient underwent retrograde aortography using the Seldinger technique, and a Kifa catheter.[1, 2] Prior to arteriography the patient was sedated with pentobarbital and diphenhydramine. After injection of 40 cc of contrast media over a 2-second period, arterial pressure was monitored continuously from the abdominal aorta. The blood pressure response to the injection is shown in Figure 1.

Figure 1

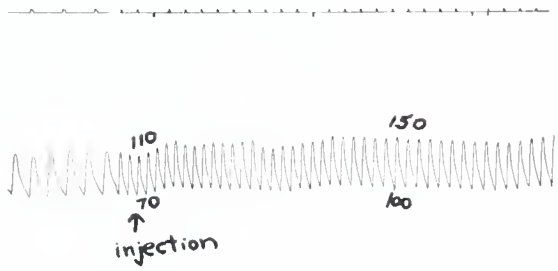

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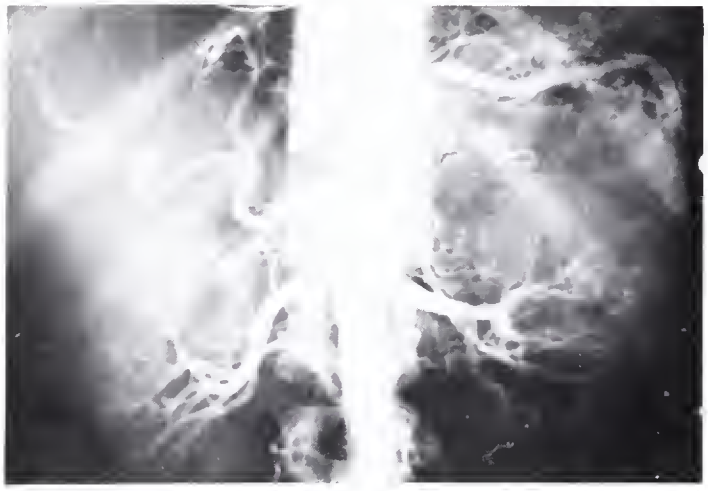
Figure 2 shows a representative film from the aortogram demonstrating a large vascular mass, 10.5 x 10 cm, in the left suprarenal region. There is displacement of the splenic artery upward, and extension of the mass over the midportion of the left kidney. The mass received its blood supply from the superior and middle adrenal arteries, which were enlarged. The inferior adrenal artery was poorly visualized. Late sequence films showed no other evidence of extra-adrenal tumors in the periaortic regions. The radiographic procedure was well tolerated and the patient did not require either antihypertensive or vasopressor drugs for maintenance of normal circulation.

Figure 2



For three days prior to removal of the tumor, the patient was treated with phenoxybenzamine 10 mg b.i.d. to partially block the alpha adrenergic receptor sites. Blood pressure remained stable in the range of 140-160/90-100. She was discouraged from any strenuous activities. She was also given two units of whole blood which reduced her mild postural blood pressure drop.

Preoperatively the patient was again sedated with pentobarbital and diphenhydramine and prior to induction of anesthesia, large bore polyethylene catheters were inserted into two large peripheral veins and the left radial artery. The central venous pressure was measured from the right atrium. Induction of anesthesia was carried out by the use of pentothol sodium. Muscular relaxation was obtained by the use of curare and then succinyl choline. During intubation the patient had a brief self-limited run of ventricular tachycardia. Methoxyflurane, nitrous oxide, and oxygen were utilized for anesthesia.[3] The tumor was removed through a left subcostal incision, ligating first the venous outflow from the tumor and then the arterial supply. After removal of the tumor mass, the entire abdominal cavity was explored without findings of any other abnormality. The operative procedure was characterized by fluctuations in blood pressure whenever there was any manipulation of the tumor mass. Hypertension was controlled by the use of intravenous sodium nitroprusside, and hypotension by the infusion of whole blood and lactated Ringer's solution. Continuous electrocardiographic monitoring showed intermittent premature ventricular contractions, which were controlled by the use of intravenous lidocaine.

Anatomically, the neoplasm was well encapsulated and arose medially and anteriorly to the left kidney and adrenal gland. It was adherent to the adrenal posteriorly. Macroscopic and microscopic appearance of the tumor is shown in Figures 3 and 4.

Figure 3

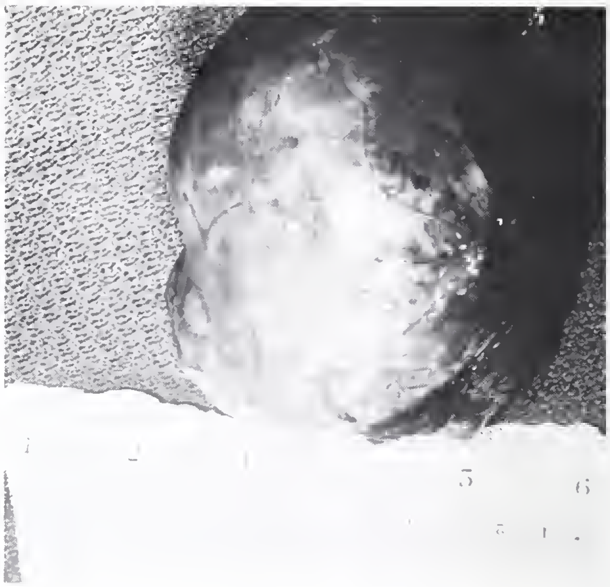
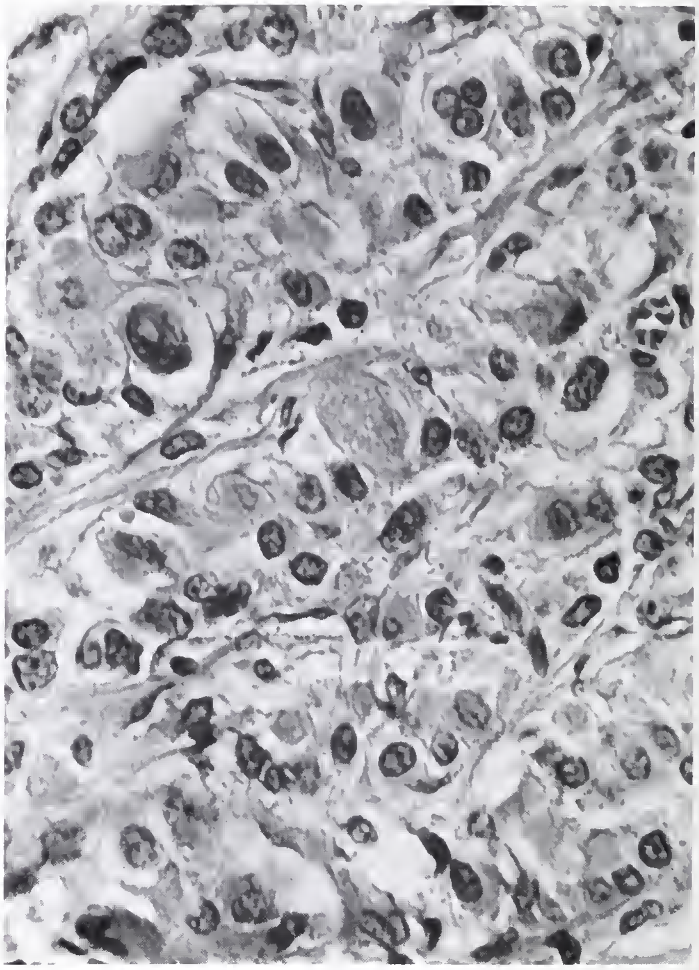


Figure 4



The postoperative course was uncomplicated, with the patient remaining normotensive and asymptomatic except for the pain induced by the operative procedure. She was discharged on the seventh postoperative day. Serial 24-hour urinary catecholamines were 80, 97, and 115 mcg, respectively.

Four months after surgery, the intravenous pyelogram was repeated and was again normal. Twenty-four hour urinary metanephrines were 0.4 mg; 24-hour urinary catecholamines 29 mcg. The patient's weight had remained stable. Blood pressure was 120/80, pulse 76 and regular. The previously audible left parasternal murmur had disappeared. Subjectively, the patient noted a significant decrease in the frequency and severity of her headaches and her nervousness. She also noted that she had no further constipation. In a letter she stated, "I feel so much better generally that I feel like someone else."

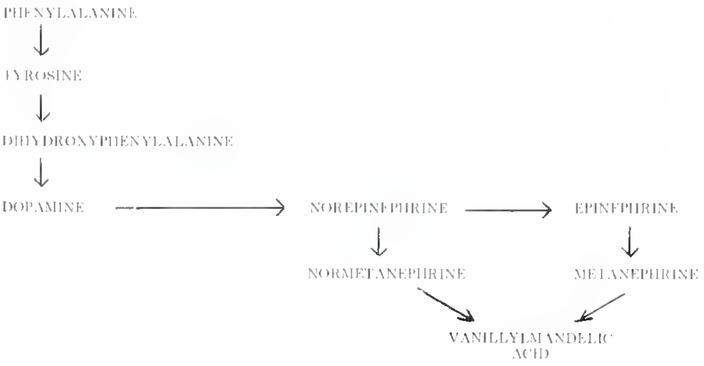
DISCUSSION

Pheochromocytomas represent a difficult diagnostic and therapeutic problem. Importance of their recognition is paramount, however, because of the eventual lethal consequences of sustained hypertension or, less commonly, because of malignancy. Jansen, Jones and Shohl reported the first pheochromocytoma from Alaska in 1966.[21]

There are many diagnostic tests for pheochromocytoma, the most useful being measurement of urinary catecholamines or their metabolites. Analysis for vanillylmandelic acid is the least expensive, but in certain laboratories includes assay of all phenolic acids, such as those contained in bananas, chocolate, cheese, coffee, vanilla extract, aspirin, mephenesin, clofibrate, and glyceryl guaicolate. Urinary catecholamines are more expensive, and because of microgram quantities, are subject to increased risks of technical error. They may be falsely elevated by the use of bronchodilators, nasal decongestants, alpha methyldopa, L-dopa, and occasionally, by fluorescent drugs such as chlorpromazine and tetracycline. Urinary metanephrines are subject to the same influences, and, in addition, are falsely increased by the use of monoamine oxidase inhibitors.[4, 5, 6] Plasma catecholamine determinations are available, but are of infrequent diagnostic assistance except when sampled from various sites in the inferior vena cava to localize an extra-adrenal tumor.[6, 7, 8] Provocative tests with histamine, phentolamine, tyramine and glucagon are subject to both false positive and false negative reactions, and, in addition, may precipitate hypertensive or hypotensive crises.[4, 5, 9]

Pheochromocytomas have also been reported to secrete large quantities of dopa, dopamine, and homovanillic acid, particularly when malignant.[10, 11] The secretion of these substances is most common with the related tumor, neuroblastoma. The relationship of these compounds is shown in Figure 5, demonstrating catecholamine biosynthesis and degradation.

FIGURE 5



CATECHOLAMINE METABOLISM

Symptoms present in the patient with pheochromocytoma are dependent upon the relative quantities of epinephrine or norepinephrine.[12] Most common are the neurologic symptoms of headache, tremor, perspiration, weakness, and anxiety.[13] Common cardiovascular symptoms include palpitation, postural dizziness, flushing and orthostatic hypotension.[14] Hypertension is intermittent and paroxysmal in at least 50 percent of patients with pheochromocytoma. Frequency of symptoms is widely variable, as is the duration of any individual attack. Because of increased frequency of pheochromocytoma in neuroectodermal syndromes, e.g., neurofibromatosis, tuberous sclerosis, von Hippel-Lindau and Sturge-Weber syndromes, such patients should be routinely screened. Once diagnosis of pheochromocytoma has been made, associated diseases such as cholelithiasis, medullary carcinoma of the thyroid, and multiple endocrine adenomatosis should be ruled out. Complications of catecholamine excess itself are also common, including glucose intolerance secondary to inhibition of insulin release, myocarditis, and the cardiac and vascular sequelae of sustained hypertension.[5, 12, 15]

The patient presented is of considerable interest from many aspects. She first demonstrates the importance of an active search for surgically correctable forms of hypertension in young individuals. (The diagnosis of pheochromocytoma was actually made by Dr. Robert Crooks in Tanana prior to her referral to Anchorage.) While her symptoms of headache, anxiety, constipation and mild hypertension all are characteristic of pheochromocytoma, they are likewise common and nonspecific. The family history of a grandmother with hypertension and the patient's unusual skin pigmentation suggested neurofibromatosis, although the absence of axillary freckling mitigates against this diagnosis. Von Hippel-Lindau disease was also considered because of the possible retinal abnormality noted in Tanana.

Because this patient's tumor produced only epinephrine, her preoperative preparation varied from that usually recommended for the more common norepinephrine producing pheochromocytomas. Epinephrine is predominantly a beta receptor stimulant, although it possesses alpha adrenergic properties as well. Blockade of its alpha adrenergic activity frequently accentuates the beta stimulant effects. For this reason, only small doses of phenoxybenzamine were utilized, and propranolol, a relatively short-acting drug, anticipated for blockade of the beta receptors.[10, 12] Sodium nitroprusside was similarly chosen because of its direct depressant effect on vascular musculature, its absence of significant toxicity, and its short duration of action.[16] Drugs utilized for preoperative medication and anesthesia were likewise carefully chosen to minimize possible enhanced sensitivity to epinephrine.[3] Continuous monitoring of central venous pressure, arterial pressure, and cardiac rhythm during surgery facilitated the maintenance of near normal circulation despite manipulation of the tumor with its attendant release of epinephrine.[10]

The prognosis for this patient and others with surgically removed pheochromocytoma is generally good.[17] Because of histologic identity with the benign form, malignant pheochromocytoma can be recognized only by the presence of distal metastases.[15] The absence of demonstrated additional extra-adrenal tumor by angiography and surgical exploration, and the return to normal of urinary metanephrines and catecholamines postoperatively indicates initial surgical cure.[10] Annual urinary catecholamine determinations will be made, however, because of the possibility of metastases or development of an additional benign pheochromocytoma.

Review of the medical literature documents the extreme rarity of epinephrine-secreting pheochromocytomas, and there is only a single case report of an extra-adrenal epinephrine-secreting tumor.[18, 19] A second case report describes the post mortem chemical analysis of an extra-adrenal pheochromocytoma which contained primarily epinephrine.[20] The anatomical location of the above tumors was similar to that in our patient. It must be recognized that accessory adrenal glands may occur in this location, and although they infrequently contain medullary tissue,[22] it is possible that these tumors arose from an accessory adrenal gland instead of from another source of chromaffin tissue.

SUMMARY

A case of a young woman with an epinephrine-producing pheochromocytoma from a probable extra-adrenal location is presented. Emphasis is placed on the diagnosis of pheochromocytomas and the importance of pharmacologic management based on the specific adrenergic effect of the dominant catecholamine produced by the tumor.

Appreciation is expressed to the many other physicians sharing in this patient's care.

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A CLINICAL GUIDE TO DRUG USAGE DURING PREGNANCY

Michael Schallock, RPh.

The intent of this article is to consolidate and clarify information from various sources on the use of drugs during pregnancy. Exclusion of a drug or drug class from this list does not imply safety. Simply no information was available.

A few general guidelines for the use of drugs during pregnancy are as follows:

1. Very few of the drug adverse effects have been conclusively verified. They are merely reported clinical observations that through repeated occurrence or close correlation to theoretical prediction appear to be significant.
2. Due to relatively low incidence or incomplete reporting, many adverse fetal responses to hazardous drugs are not found in the literature.
3. Drugs having a molecular weight of 1000 or less, *i.e.*, most commonly used drugs, will cross the placenta.
4. Most malformations can only be produced during the first trimester. (5)
5. Most enzyme system, respiratory system, or metabolic alterations will become significant only after the infant is separated from the life support system of the mother, *i.e.*, the respiratory depressant effect of the barbiturates is of little importance before term, as is the addictive effect. However, the effects of the drugs altering the thyroid function of the fetus will be of long lasting significance. The alterations induced must be resolved before term.
6. With few exceptions, every drug taken by the mother will have some effect on the fetus. The fetus is not effectively shielded by the placenta. Drug action may or may not be harmful.
7. The period of greatest risk to the fetus is very early in pregnancy. Therefore, since pregnancy is not always diagnosed soon after conception, no woman of child-bearing potential should be exposed to known teratogens and all drug therapy should be kept to the absolute minimum.

TABLE OF DRUG RISKS DURING PREGNANCY

*(*Asterisk indicates drugs generally considered to be without significant adverse effect when used in usual doses.)*

DRUG (By Class)	ADVERSE EFFECT ON FETUS	DURING PREGNANCY TO BE AVOIDED
Analgesics:		
*Acetaminophen (Tylenol, Tempra)	None in usual doses	
Narcotics (2)	Respiratory depression Withdrawal symptoms Neonatal death	Near term
Phenacetin (5)	Methemoglobinemia Sulfhemoglobinemia Anemia Renal papillary necrosis Degenerative encephalopathy	Avoid large doses anytime
Salicylate (3)	Hemorrhage Avoid high doses	Near term

From the PHS Alaska Native Medical Center, Anchorage, Alaska. Mr. Schallock is a Pharmacy Officer at the Medical Center.

Androgenic Steroids:(5)	Masculinization of female fetus	Throughout
*Progesterone(6)	Little androgenic activity	
Oral Contraceptives(3)	Masculinization Possible uterine cancer later in life of female offspring	
Anesthetics:		
Mepivacaine (2)	Fetal bradycardia Neonatal depression	Near term
Antibiotics:		
Cephalosporins	No information available	
Chloramphenicol (2)	"Gray syndrome," death	Near term
Chloroquine (3)	Hearing loss; thrombocytopenia	Throughout
*Ethambutal	No reported adverse effects	
Erythromycin Estolate (Ilosone)	Liver damage? (Use *erythromycin stearate or another salt)	
*Isoniazid (5)	No reported adverse effects	
*Metronidazole (5)	No reported adverse effects	
Nitrofurantoin (2)	Hemolysis	Near term
Novobiocin (2)	Hyperbilirubinemia	Near term
*Penicillin	Generally recognized as safe	
Streptomycin (2)	8th nerve damage, micromelia hearing loss, multiple skeletal anomalies	Throughout
Sulfonamides (2)	Hyperbilirubinemia, kernicterus	Near term
Tetracyclines (3)	Inhibit bone growth, tooth discoloration, micromelia, syndactyly	2nd and 3rd trimesters
Anticarcinogens:(Probably no safe agents in this class of drugs)		
Aminopterin (5)	Abortion & fetal malformation	Early (?)
Busulfan (2)	Cleft palate	1st trimester
Chlorambucil (1)	Abortion & anomalies	Undetermined
Cyclophosphamide (2)	Severe stunting, fetal death	1st trimester
Methotrexate (1)	Abortion & abnormalities	Undetermined
Anticoagulants:		
Dicumerol (5)	Hemorrhage, fetal death	Throughout
*Heparin (5)	Probably OK because little or no placental transfer	
Tromexan Ethyl Acetate (5)	Hemorrhage, fetal death	Throughout
Warfarin (Sodium) (2)	Hemorrhage	Throughout
Anticonvulsants:		
Barbiturates (3) (in excess)	Neonatal bleeding, death	Near term

Diphenylhydantoin	Interference with folate metabolism, cleft lip, cleft palate, microcephaly	Undetermined
Antidiabetics:		
Chlorpropamide (5)	Significant increased perinatal mortality Prolonged neonatal hypoglycemia	Throughout
*Insulin (5)	Drug of choice	
Phenformin (3)	Lactic acidosis (?)	Undetermined
*Tolbutamide (5)	If oral agents must be used probably drug of choice	
Antihypertensives:		
Chlorthiazide (3)	Thrombocytopenia, "idiopathic hypertension"	Throughout
*Guanethidine (Ismelin) (5)	Placental transfer but probably safe	
Hexamethonium (6)	Neonatal ileus	Undetermined
Hydrochlorthiazide (3)	Thrombocytopenia "idiopathic hypertension	Throughout
Reserpine (3)	Nasal block	Near term

NOTE: The thiazides are used quite commonly during pregnancy, seemingly without ill effect. There have been adverse effects reported and the causal relationship, if any, must be considered questionable.

Antiemetics:		
*Meclizine (6) (Bonine)	No evidence of harm	
*Phenothiazines (5)	No evidence of harm	
Bendectin	Preferred drug	
*Tigan	No evidence of harm	
Cortisone (3)	Cleft palate	Very early
Indomethacin (3)	Altered platelet function	Undetermined
Phenylbutazone (3)	Altered platelet function, neonatal goiter	Undermined
Antithyroid:		
Iodine 131 (5)	Hypothyroidism	After 14th week
Iophenoxic Acid (Teridax) (3)	Elevation of PBI	Throughout May affect subsequent offspring
Methimazole (2)	Goiter & mental retardation (if mother becomes hypothyroid)	After 14th week
Perchlorates (5)	Goiter & mental retardation	Undetermined
Potassium Iodide (2)	Goiter & mental retardation	After 14th week
Propylthiouracil (2)	Goiter & mental retardation	After 14th week
Corticosteroids (3)	Cleft palate (low risk)	Undetermined

*Cardiac Glycosides (5)	Cross placenta but no evidence of harm has been reported	
Depressants:	In general, effects may persist longer in newborns than in mother	
Doriden (5) (Structure similar to Thalidomide)		Do not use in 1st trimester
Megimide (5) (Structure similar to Thalidomide)		
*Scopolamine (5)	No reported harm	
*Paraldehyde (5)	No reported harm	
Chloral Hydrate (5)	(Placental transfer)	Do not use in 3rd trimester if chance of premature delivery because of inadequate fetal glucuronide detoxification mechanism.
*Ethanol	No reported harm	
Diuretics:		
Furosemide — (Significant fetal abnormalities in animals (Package insert))		Throughout
Thiazides (3)	Thrombocytopenia, neonatal death (rare, but reported)	Near term
Estrogens: (3)	Large doses may produce gross malformations, advanced bone age	Undetermined
Diethylstilbestrol	Masculinization	Undetermined
Muscle Relaxants (Skeletal):		
*Diazepam	Placental transfer but in usual doses no reported harm	
*Succinylcholine (5)	No reported harm	
*Tubocurarine (5)	No placental transfer	
Steroids: (See Androgenic & Cortico-)		
Stimulants:		
Dextroamphetamine (3)	Transposition of great vessels	Undetermined
Phenmetrazine (3)	Skeletal & visceral anomalies	4th-12th week
Tranquilizers:		
Chlordiazepoxide (5)	No experience, use with caution	
*Diazepam	Placental transfer but in usual doses no reported harm	
Imipramine: (Fetal malformations in rabbits — no human data — Caution (package insert data))		
*Phenothiazines (6)	No evidence of harm	

Vitamins:

Vit C(3) (Large doses)	Withdrawal scurvy in newborn	Late
Vit D(3) (Large doses)	Excessive serum calcium Mental retardation	Throughout
Vit K(5) (Large doses)	Placental transfer, Hyperbilirubinemia, kernicterus	Near term

(Limit doses to 1 mg., for baby and 5 mg., for mother)

MISCELLANEOUS:

Adrenergic Drugs: (5)

Epinephrine or Norepinephrine	Fetal bradycardia	Throughout (?)

Mechanism "Thought to be reduction in maternal placental blood flow caused by the vasoconstrictor effect of the drugs on the uterine vessels resulting in temporary asphyxial effect in the fetus."(5)

Heavy Metals: (5)	Various adverse effects primarily hemorrhage and abortion; also anemia	Throughout
LSD: (3)	Chromosomal abnormality, stunted offspring	Throughout
Methadone: (3)	Fetal respiratory depression	Term
Quinine: (6)	Abortion, deafness Thrombocytopenia	Throughout
Smoking: (5)		
Tobacco	Decreased birth weight and prematurity	Throughout
Marijuana	No evidence as yet	

NOTE:(3) In addition to the above listed drugs the following have been implicated in the production of fetal goiter:

Caffedrin
Chlorpromazine
Chlorpropamide
Felsol powder
Hexylresorcinol iodides
Lithium carbonate (Up to 8% incidence)
Methimazole
Methylzanthines
Phenylbutazone
Potassium iodide
Propylthiouracil
Quadrinal
Radioactive iodine
Sulfonamides
Sulfonylureas

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THE HELEN S. WHALEY, M.D. NEUROLOGICAL CLINIC...

" A LIVING MEMORIAL "

Carol D. Larsen

The third annual Helen S. Whaley Neurological Clinic opens March 29 and will bring to Anchorage Michael E. Blaw, M.D., Professor of Neurology and Pediatrics at the University of Texas (Southwestern) Medical School at Dallas. The two-day clinic at the Alaska Treatment Center will feature local physicians presenting patients with discussions by Dr. Blaw, and a Friday night lecture by the guest neurologist (Figure 1). A graduate of the University of Chicago Medical School, Dr. Blaw joined Southwestern's staff in 1968. He has participated in the AMA-Vietnam Medical School Project at the University of Saigon as Visiting Professor and was recently elected vice president of the International Child Neurology Association, of which he is a founding member. Dr. Blaw is a protege of Dr. Douglas N. Buchanan, who, in 1960, came as guest lecturer to one of the earliest neurology clinics at the invitation of Dr. Helen Whaley (Figure 2).

Dr. Michael E. Blaw will consult and lecture at the Helen S. Whaley, M.D. Neurological Clinic.

Doctor Helen Whaley, at right, and physical therapist Mary Nell Mower with a young patient during the mid-1960s.

Dr. Whaley was a prime mover in organizing those first clinics, including the 1966 Mead Memorial Neuromuscular Congenital Defects Clinic, which featured Doctors J. William Hillman, Professor of Orthopedic Surgery, and Robert Merrill, Assistant Professor of the Department of Pediatrics, both of the Vanderbilt Hospital, Vanderbilt University.

From the Alaska Treatment Center for Crippled Children and Adults, 3710 E. 20th, Anchorage, Alaska 99504.

The first neurology clinic to bear Dr. Whaley's name was held in April 1972, the year after her death, and brought Stuart Schneck, M.D., Professor of Neuropathology at the University of Colorado School of Medicine, Denver, Colorado. Dr. Paul G. Moe, a pediatric neurologist from the University of Colorado School of Medicine, came to the second Helen Whaley Clinic in 1973 as guest lecturer and consultant.

The Alaska Treatment Center sponsors these clinics with assistance from the Alaska Association of Allied Health Professions, the Alaska Native Medical Center, and the Regional Medical Program. The neurological clinics have evolved as a first-rate teaching meeting because of the national reputations of the participating physicians, according to Dr. Shirley Fraser, local neurologist and Medical Director of the Alaska Treatment Center.

Neurological Clinic Calendar

March 29 Friday	
8:30-11:30	Patient presentation
11:30-12:00	Discussion
12:00- 1:30	Lunch
1:30- 4:30	Patient presentation
4:30- 5:00	Discussion
7:30 p.m.	Lecture — Michael E. Blaw, M.D. Topic to be announced
March 30	
March 30 Saturday	
8:30-11:30	Patient presentation
11:30-12:00	Discussion
12:00- 1:30	Lunch
1:30- 4:30	Patient presentation
4:30- 5:00	Discussion

The clinics have also stood as a "living memorial to an extraordinary woman," in Dr. Shirley Fraser's words, who tells that Dr. Helen Whaley not only helped bring these clinics into being, but made sure that they would be provided for after her death. "About 18 months before her death," Dr. Fraser recalls, "Dr. Whaley told me that she was going to die in a short time and that I had better learn how to read EEG's and take over the clinics. The clinics are one more outgrowth of her concern for the community."

In 1954, shortly after she and her husband, Dr. Robert D. Whaley, Anchorage internist, first came to Alaska, Helen was practicing with fellow pediatrician Dr. John Tower, out of the Towers' home on Second Avenue in Anchorage, and in 1959, Dr. Harvey Zartman joined them. The practice thrived since Anchorage had a young population with a high birth rate and these three remained the only civilian pediatricians in the city for many years.

But Dr. Helen had time to become very involved in the pediatric affairs of Anchorage. With Dr. Tower, Dr. William Mills, Dr. Helen Beirne, Mary Nell Mower, Physical Therapist, and Nick Peters—then the Elks' Physical Therapist and now the Director of the Alaska Treatment Center—she developed treatment modalities at the Alaska Crippled Children's Association, which was later to become the Alaska Treatment Center. Dr. Whaley became the Medical Director of the Treatment Center, which she helped nurture into the comprehensive rehabilitation facility it is today.

Late in 1972, the Anchorage Borough School District opened their new special education facility. The sign in front tells that the building is called the Helen S. Whaley Center for Learner Assistance, and stands as evidence of the respect Dr. Whaley earned in the community.

There is another sign which reminds us of Dr. Whaley's concern for her city and its people. It is at the Alaska Treatment Center on the door of the Child Study Center, a program supported by a Maternal and Child Health Federal grant and administered and directed today by Dr. George Brown. Dr. Whaley was its director from 1960 until her death, with the exception of the years 1966 to 1968, which she spent at Stanford receiving her certification in Neurology. According to Dr. Brown, Dr. Whaley saw the needs of children with chronic illness, saw the needs for multiprofessional cooperation and helped the Child Study Center grow to fulfill these needs. She saw that there had been adults institutionalized in Alaska who might not have been, had they had early comprehensive care and follow-through.

Those who knew Dr. Helen Whaley and worked with her feel that the tribute expressed in the sign on Child Study Center's door is as fitting a tribute as can be told in a few words. The sign says:

Child Study Center
in Memoriam
Helen S. Whaley, M.D.
Pediatrician, Neurologist, Friend of Families
And All Alaskan Children

PRESIDENT'S PAGE

A Time of Wise Decisions

There are moments when the participants in the ASMA Midyear Council Meeting felt that discussion was greatly and unnecessarily drawn out and at other times inordinately brief and hasty. No matter what the personal view, several decisions were made which reflect a healthy and thoughtful re-evaluation of the State Medical Association. New dimensions were added in our relationship to the American Medical Association. The necessity for a broad and actively participating membership in the State Association was emphasized and detailed in subsequent motions.

The treasurer's report and budget discussion occupied the largest portion of the meeting. After considering the appropriate number of resolutions congratulating the membership on at last obtaining a debt-free position, the hard work of deciding what to buy and how much to pay began. There is no question that more activities can be undertaken with less individual member effort and considerably more efficiency with an Executive Director. There is little question that sufficient members would probably pay State dues of $450.00 a year to obtain this benefit. Despite the fact that the absence of an Executive Director places more responsibility on officers, counselors and committee chairmen, the decision was made to maintain the broadest membership possible with annual dues of $250. At $250 and without the expense of an Executive Director, several changes can be made to provide money for a variety of previously unbudgeted activities.

Even the most ardently opposed to some of the AMA positions and policies must agree that many of its resources and its ability to provide physicians with current information on national health issues is of value. Criticism within an organization is always more strongly felt and more apt to lead to change than that voiced by nonmembers. Despite a small number of physicians Alaska is in a unique position to be able to exert considerable influence. After many years of working as an effective delegate to the AMA Dr. Joe Ribar may be nominated for the vice-presidency of the American Medical Association. For those of us who have attended AMA meetings with Dr. Ribar there is no question that he has established many friends, and in addition to his position as our delegate has significant influence as a member of the committee. Even when they were contrary to his own views he has fairly and vigorously expounded the position of the Alaska State Medical Association. In his bid for the vice-presidency, Dr. Ribar deserves the wholehearted support of this Association.

As a positive expression of this, the Council moved to seek a Bylaw change which would provide for an elected alternate delegate. In the past this position has been held by the President. State Presidents, however, have an independent and significant role to play in the AMA. The volume of business and the number of hearings that are of vital concern to a state organization such as Alaska requires the working presence of a delegate, an alternate delegate and a State President. The budget decisions were made at the Midyear Council Meeting to provide the funds necessary to assist these officers to attend the annual meeting as well as to actively support and engage Dr. Ribar's vice-presidential campaign.

While recognizing the desirability and necessity for strong participation in the American Medical Association, the Council did not overlook the requirement for reinforcing and emphasizing state level action. Money is to be budgeted to provide for intrastate presidential travel so that the component societies will have an opportunity to obtain direct information on the activities of the State Association and will be in a better position to express their feelings and views. The State and Federal government expectations, and requirements for State Medical Association endorsement, reaction, and participation in a rapidly increasing number of health programs and issues necessitates our being fully informed and consolidated in our opinions and actions.

Several suggestions were made for improving committee work. Perhaps most significant was the passage of a motion to provide money to assist in committee travel and committee arrangements. No definite action was taken on a suggestion to establish and maintain a regular committee meeting schedule. It was felt that this should be at the discretion of the Chairman and be subject to the demands and action required of the committee. An effort will be made to arrange for broader and more active membership participation in the Annual Meeting through the committee structure. A proposal is under consideration to arrange for committee hearings for various state resolutions before presentation to the floor. Another possibility is the regular notification to all members of the meeting scheduled and anticipated each month along with the topics for their consideration. In this way any member may avail himself of the opportunity to express himself on current issues.

During the budget debate the importance of providing money to maintain a liaison with representatives of the news media and community leaders in a variety of fields was suggested. It was suggested that an informal semisocial contact may be of considerable value in presenting our views to the general public.

With dues of $250 per year these activities are possible while we maintain secretarial support but avoid the expense of an Executive Director.

Glenn B. Crawford, M.D.

DIGOXIN STATUS

The Food and Drug Administration instituted a testing program about digoxin potency in 1970. Studies have shown that the bioavailability of digoxin is related to its dissolution; therefore standards have been adopted regarding dissolution.

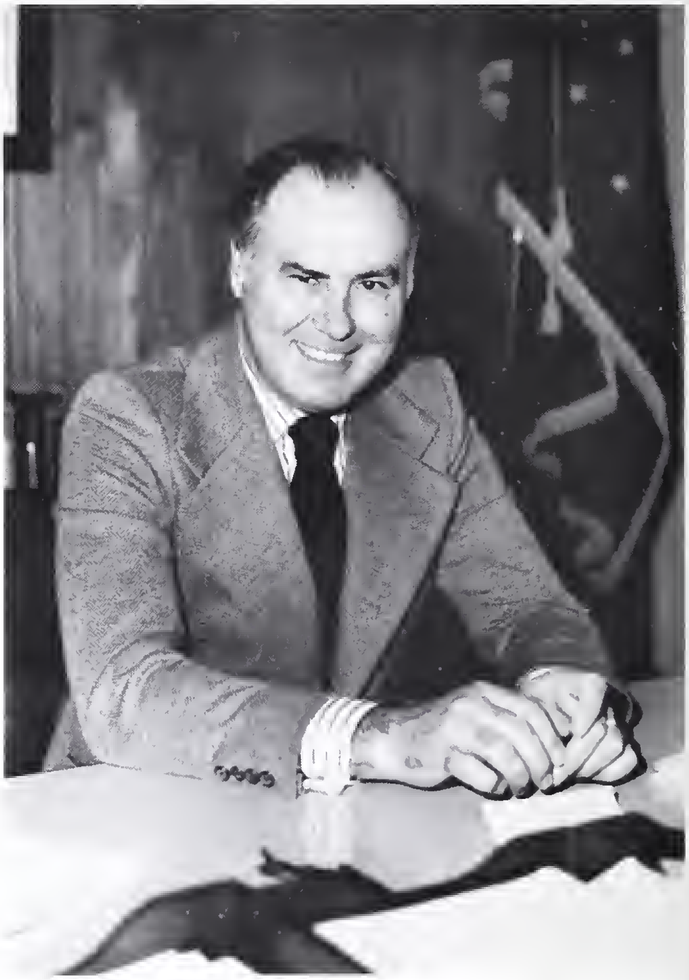
Experience indicates that manufacturing processes may have to be modified to assure that digoxin tablets comply with F.D.A. requirements. The narrow margin between therapeutic and toxic digoxin levels has enhanced the risk presented by nonuniform digoxin products. To protect the public, the F.D.A. Commissioner has promulgated more stringent testing procedures.

Parenteral digoxin products are considered new drugs subject to the Drug Efficacy Study Implementation notice (DESI 8627) published in the Federal Register of July 27, 1972.

Anyone desiring additional information and references may obtain them from the Hearing Clerk, Food and Drug Administration, Room 6-86, 5600 Fishers Lane, Rockville, Maryland 20852.

COMMISSIONER'S PAGE

Frederick McGinnis
Commissioner
Department of Health and Social Services



Frederick McGinnis

The Division of Medical Assistance has completed its Medicaid Annual Status Report for Fiscal Year 1973. The Medical Assistance Budget as amended and approved by the Governor for FY 1973 reflected $5,400,800 earmarked for Medicaid: $681,200 for administrative services; and $3,397,249 for General Relief Medical for a total budget figure of $9,523,249. It should be noted that federal financial participation (of 50 per cent of Medicaid direct services and administration and 75 per cent of the administration costs for professional staff. The State continues to fund the GR-Med Program at 100 per cent.)

The number of eligible Alaskans for Medicaid services increased from 15,018 in September 1972 to 15,494 at the close of the fiscal year. As of November 30, 1973, the Department had expended $4,303,947 to pay 21,100 Medicaid claims for services rendered during FY 73. In addition, 15,500 claims for services not covered under Alaska's Medicaid program but provided under the General Relief Medical program were paid for Medicaid-eligible persons. This totaled $256,800.

General Relief Medical assistance recipients numbered about 5,000. Approximately 19,500 claims were submitted for providing necessary medical services to this group of medically needy persons. Payments amounted to $2,044,628.

The Department has continued to improve the claims processing system. Modifications to the Department of Administration's programming systems resulted in a period of incompatibility with Medical Assistance programs — and payment warrants were delayed for the first two months of FY 74 (July and August 1973). The average time for processing of claims with the Division of Medical Assistance has been reduced to approximately three to five days. This covers the time from receipt of the claim to submission of the payment document to the Department of Administration for generation of the payment warrant.

In the ten months of its existence in FY 73, Medical Assistance, through the Medicaid Program, has saved the State $1,775,178.70 which would have been expended from State funds in direct medical vendor payments, approximately $489,800, the difference between the total amounts invoiced and the total amounts paid under the mandated fee schedules, $91,416.28 in administrative costs paid by the Federal government, and $2,513,000 in increased Federal funding of cash assistance programs. The total savings to Alaska for the ten months of Medicaid operation is $4,869,394.98.

The Medicaid program, which insists on high standards, supports expansion of facilities, encourages innovation in medical care delivery, and requires review of care — which benefits everybody — is improving the quality, the quantity, the efficiency, the distribution, and the effectiveness of medical services in Alaska.

The Eighth Legislature, now in its second session, has created a number of bills of interest to this Department:

SB 264 Appropriation for WAMI Medical Education Program (Croft)
Would appropriate $100,000 to the University of Alaska for participation in WAMI Program.

SB 267 Health Education (Croft)
Would require each public school district to conduct a program in health education, in accordance with Board of Education regulations.

HB 428 Health Certificates — Animals Transported on Ferries (Banfield)
Would require a health certificate for any animal transported.

HB 438 Department of Health (Fritz)
Would create a new Department of Health, separating these functions from present Department of Health and Social Services. The Department would be headed by a Board of Health consisting of seven members appointed by the Governor with legislative confirmation. The Commissioner of Health is appointed by the Board subject to approval of the Governor and must be a physician. Among others, the new Department would include Drug Abuse, Vital Statistics, Alcoholism, and general health problems. It also includes Mental Health, Comprehensive Health Planning, and Medical Assistance.

HB 440 Appropriation for WAMI (Beirne and Chance) (See SB 264)

HCR 2 Local Community Services — Alcoholism (Fischer)
Requests H & SS to encourage local programs to combat alcoholism and drunkenness; and to submit proposals to the Legislature.

HCR 7 Refresher Courses and Re-licensure of Nurses (Fischer)
Encourages the providing of refresher courses for nurses who have been unemployed for five or more years with the purpose of securing their relicensure.

SB 329
HB 549 Community Mental Health Services Act
Would require H&SS to assist and supervise local communities in providing mental health services with sharing of costs.

SB 330
HB 550 Expenses of Hospitalization of Mental Patients
Amends the liability law for mental health patient hospitalization by making the liability continuing and giving the Department a legal basis for collecting such delinquent accounts.

SB 331
HB 551 Insurance Coverage for Treatment of Alcoholism and Mental Illness
Each group or blanket disability insurance policy issued covering hospital expenses due to an illness or injury must include treatment of alcoholism and mental illness with regulations by H&SS.

SB 332
HB 552 Special Appropriation for Maximum Security Unit at API
Would appropriate $200,000 for the construction of maximum security psychiatric unit at API.

SB 333
HB 553 Health and Social Services Advisory Board
Would establish an Advisory Board for Department of H&SS, with seven members appointed by the Governor, consisting of two at large, a social worker, a psychiatrist, a physician, a public health nurse, and an attorney. The Board is to advise the Commissioner concerning delivery systems, consumer needs, and programs of each division.

SCR 14
HCR 27 Feasibility Study of Computerized Data Delivery System — H&SS
Requests the Commissioner of H&SS to undertake a comprehensive study to determine the feasibility of implementing a computer system in the Department of H&SS.

NORTHERN HIGHLIGHTS - 11

SELECTED ABSTRACTS ON MEDICINE AND PUBLIC HEALTH IN THE NORTH

Health Programs in the Canadian North

Webb, M. L.

Some of the objectives, attainments, aspirations and possible future developments of health care in the north. *Canad. J. Ophthal. 8*: 205-209, 1973.

This paper sets forth the major objectives of the Canadian Northern Health Service and the extent to which these objectives have been met. Dr. Webb is A/Assistant Deputy Minister, Department of National Health and Welfare.

The Northern Health Service was established in 1955 and became fully operative about 1958. At the present time the program provides a modern nursing station and public health program in all settlements over 100 persons in the Northwest Territories and the Yukon Territory. The NHS serves all residents of the Territories, not just the Eskimos and Indians.

The objectives of the Service may be summarized:

(1) "To provide and arrange for the provision of adequate health services for all residents of the Territories in order to assist them in achieving a standard of health comparable to that of southern residents of Canada."

(2) "To encourage residents of the Territories to undertake training in the medical and paramedical fields and to increase the percentage of Northern residents employed by the Northern Health Service."

(3) "The encouragement of private medical and dental practice in the Territories."

(4) "To undertake and to encourage other agencies to undertake investigation and research into health problems in the North."

(5) "To assist in the development of a Department of Health for each Territory so that a phased transfer of responsibility for health services to all residents may take place at a mutually agreed time and place."

The extent to which these objectives are being met is briefly described. For example, some 35 per cent of employees are now Indians or Eskimos and several schools for training aides have been opened. Or again, the Federal Government will subsidize office space and housing to private physicians willing to set up practice in remote areas.

The paper also discusses the development of consumer participation, the increasing involvement of Canadian medical schools in the North and the need for further research activity on Northern health problems. The establishment of an Institute of Arctic Medicine is suggested as a future possibility.

Butler, G.C.

Delivery of health care in northern Canada. *Can. J. Ophthal. 8*: 188-195, 1973.

This paper provides a good look at the health services available to the people of the Canadian North. This vast area contains some 47,000 people, 20 per cent of them Indians and another 36 per cent Eskimos. The people are concentrated in 70 settlements, with one-third of them in six towns with over 1,000 people each. Dr. Butler is with the Department of National Health and Welfare, based in Vancouver, B.C.

The first Federal Government physician was employed in 1922. Over the years more physicians were stationed in the larger communities and nursing stations were begun in the isolated outposts. The present Northern Health Service began in 1955 and now operates six hospitals, 40 nursing stations, 11 health centers, and 19 dispensaries.

The Northern Region, administered from Edmonton, is divided into five zones. Communities over 800 in population are serviced by a hospital of 12-80 beds plus medical clinics with 1-12 doctors. A health care center is also provided as the focus for a public health program. Communities with a population of 100-800 are serviced by a nursing station with 1-3 resident nurses, one of whom is usually trained in midwifery. Each station has a clinic and space for 2-5 inpatients. All are equipped with telephone or radio. The larger stations are permanent structures, but the smaller ones may consist of portable units specially designed and constructed for the purpose. Communities with 50-100 persons are serviced monthly by a traveling nurse and doctor. Daily services are provided by a Community Aide, usually Natives with a six-week training course. A trailer nursing station is generally available in these villages.

Specialist services are provided under contract with Alberta, Manitoba, and McGill Medical Schools. Residents often rotate through some of the stations. The Service itself also has its own specialists.

The Northern Health Service trains or promotes the training of Nurse Practitioners, Community Health Aides (also called Lay Dispensers), Dental Nurse Therapists, and Community Health Workers. Nowadays, the latter three categories are usually Native.

All settlements over 100 persons now have a modern nursing station with a resident nursing staff and regular monthly visits by medical officers and less frequently by medical specialists. The infant mortality rate has dropped to one-third over 10 years and is now at 58/1,000 (still exceedingly high). New active cases of tuberculosis fell from 250 in 1963 to 87 in 1971. Over a third of accidental deaths, however, are associated with alcohol use and other serious health problems still remain to be solved.

Cameron, D. G.

The role of the McGill Medical Faculty in support of the health services in Northern Canada. *Acta Socio-medica scandinavica* Suppl. 6, 1972, pp 108-114.

This paper, originally given at the 1971 Oulu Conference, describes the activities of the McGill Medical Faculty in support of the Baffin Zone of the Northern Health Service. The author is Physician-in-Chief at the Montreal General Hospital.

The Baffin Zone includes a population of about 6,000, two-thirds of them Eskimos. The largest settlement is Frobisher Bay, with a population of 2,000, some 1,500 air miles from Montreal. A 35-bed hospital is located there, staffed by two or three medical officers. The other communities are served by nursing stations.

A few years ago the Minister of National Health and Welfare invited McGill University to assist the Northern Health Service in the Baffin Zone. Prior to this time McGill had occasionally sent residents in Pediatrics and Internal Medicine to Frobisher and had been engaged in several research projects in the North. Under the new agreement, McGill provides badly needed personnel on a regular basis and arranges for the orderly reception or discharge of patients evacuated to Montreal. In addition, the University recruits general medical officers for service in the Zone, sends two residents to Frobisher on a regular monthly rotation, arranges for selected senior medical students to spend elective time in isolated nursing stations, and sends out consulting specialists for clinics at Frobisher and elsewhere.

The program has been mutually beneficial to the Northern Health Service and to McGill. Besides the direct service aspect, many new research opportunities are being opened up. Perhaps most important, many young health professionals are becoming acquainted with some challenging opportunities for future work.

Darte, J. M.

The delivery of health care to children of Newfoundland. *Among the Deep Sea Fishers 70*: 2-8, January 1973.

This paper summarizes the health care system of Newfoundland and Labrador, with special reference to the care of children and mothers. This system, or in fact combination of systems, has been in operation for many years and might serve as a model for programs elsewhere. Newfoundland is a thinly populated region with transportation and communication problems and a marginal economy, especially in the outlying areas.

Health services are delivered through the Cottage Hospital System, the International Grenfell Association, and the private health sector. The Cottage Hospital System has been operated by the Department of Health of Newfoundland and Labrador since 1934. It consists of a series of small hospitals located strategically throughout the Province, each one staffed by at least two doctors and a public health nurse. These facilities provide outpatient and emergency care, limited inpatient services, and preventive services such as immunizations and well-child care. In addition to the doctors at the hospitals, there are 24 other District Medical Officers in the system. The International Grenfell Association has operated hospitals and nursing stations in Northern Newfoundland and Labrador since before the turn of the century. Besides a large referral hospital at St. Anthony. the mission maintains smaller hospitals at North West River, Happy Valley, and Churchill Falls, plus a number of nursing stations in Labrador and on the Island. The private sector physicians are concentrated primarily in St. John's, Corner Brook, and other urban areas. The pediatricians handle primarily referral work.

In the past few years maternal and child health has shown a considerable improvement. Newfoundland's infant mortality rate is now slightly above that of Canada as a whole. Some 94 per cent of women are now delivered in hospitals, and another three per cent are delivered by a physician or in a nursing station.

The recent availability of a better road system has done much to change the patterns of health care. For example, doctors are now more readily available in the outports, with a change in emphasis of the old district nurses to a more preventive role. New facilities are more likely to be ambulatory clinics, rather than small Cottage Hospitals.

Schaefer, O

The changing health picture in the Canadian North. *Canad. J. Ophthal. 8*: 196-204, 1973.

This paper describes the general health picture in Canada's Arctic regions, much of it based on the author's own experience or research. Dr. Schaefer is Chief of the Northern Medical Research Unit at the Charles Camsell Hospital in Edmonton, Alberta.

In past years the Eskimos suffered great losses from periodic starvation or from the epidemic diseases introduced by early contacts with the Europeans who came North. Tuberculosis was the most persistent of the epidemics and although conditions are constantly improving, it still remains a serious threat. PKC was another widespread affliction. Infant mortality was as high as 250/1000 live births as recently as 1956.

Present day trends in health status are associated with a significant change in life style, particularly as it relates to diet, lack of exercise, improved housing, and migration from camps to towns. Venereal disease rates are very high and are climbing still. Alcohol-related diseases and deaths are now the most important single health problem. Accidents have been the leading cause of death in the Yukon for 10 years and for five years in the Northwest Territories. Dental problems are almost universal and of appalling severity. Otitis media and respiratory disease are the major pediatric problems.

Due to changes in dietary habits, the Eskimos are also beginning to experience other new health problems such as an increased fertility rate (because of the early discontinuation of breast feeding), obesity, acne, atherosclerosis, and abnormal glucose tolerance. Growth patterns are also changing rapidly and the author suggests that the widespread problem of myopia may be related as well.

Mills, T. M.

Gold Rush Nurse. *North/Nord* 10-14, Sept-Oct 1973.

This is an informal biographical portrait of a nurse, now 100 years old, who spent 10 years at the Good Samaritan Hospital at Dawson City during the later Gold Rush era. The author is a free-lance writer with the United Church of Canada.

Ida May Burkholder Bredenberg was a graduate of the Toronto General Hospital in 1899. She went to Dawson City in 1908 intending to remain a year but stayed a decade. From 1909 she served as Matron at the Good Samaritan Hospital, a Presbyterian facility founded by Dr. A. S. Grant.

The paper is filled with anecdotes and reminiscences of life in a frontier town suffering from gold fever. Among the stories are ones about the nurse's wedding and honeymoon, a smallpox epidemic in which the M.P. for the Yukon contracted the disease, and her experiences training an Indian Chief's daughter as a practical nurse.

– Robert Fortuine, M.D.

The Weight of Professional Opinion

It's time for action to defend the laws and regulations that protect your patients against drug substitution.

These professional and trade organizations are united in supporting antisubstitution statutes and regulations:

The American Academy of Dermatology

The Board of Directors of the American Academy of Family Physicians

The Executive Board of the American Academy of Neurology

The Committee on Drugs of the American Academy of Pediatrics

The American College of Allergists

The Executive Committee of the American College of Obstetricians and Gynecologists

The Board of Regents of the American College of Physicians

The Board of Trustees of the American Dental Association

The Board of Trustees of the American Medical Association

The American Psychiatric Association

The Executive Committee of the National Association of Retail Druggists

The Board of Directors of the Pharmaceutical Manufacturers Association

The National Wholesale Druggists' Association

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Alaska Dental Society
Convention: Sitka
June 1, 2, 3 & 4, 1974

Alaska State Medical Association
Convention: Anchorage
June 4, 5, 6, 7 & 8, 1974

VOLUME 16, NUMBER 3
MAY 1974

This psychoneurotic often respond

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal m be associated with temporary increase in frequency and/or severit of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawa symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiti and sweating). Keep addiction-pro individuals under careful surveillance because of their predispositi to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

ALASKA MEDICINE

Official Journal of the Alaska State Medical Association
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APPLICATION TO MAIL AT SECOND CLASS POSTAGE RATES IS PENDING AT ANCHORAGE, ALASKA

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Hooper Bay, Alaska
by R. Fortuine

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EVALUATION OF THE ALASKA NATIVE HEALTH SERVICE

Report on a study trip, December 1972 - January 1973

Sixten S.R. Haraldson, Dr. Med.

PURPOSE OF THE STUDY

The purpose of the trip was: "to review the Alaska Native Health Service program plans, . . . to evaluate methods, . . . [and] to review the other health programs such as the Yukon-Kuskokwim Health Corporation (YKHC) and the Norton Sound Health Corporation (NSHC)."

As a further motive may be seen the high per capita expenditure per year for health services among Natives of Alaska, presently about $700. A further increase of these costs seemed unrealistic and may not be necessary in a striving towards a higher level of health standards. It is likely that the next step for improvement of health should be taken within the wide field of general standard of living, including housing, water supply, hygiene and nutrition. Investments in these fields may give more reward, as several diseases, still not under control, may partially be caused and perpetuated by insufficient general standard of living.

From the World Health Organization point of view, it is apparent that problems characteristic of Alaska Natives are found in many other countries. Thus, experiences from Alaska may be utilized in other places, although financial and other resources are more abundant in Alaska. Thus, the new WHO program "Alternative approaches to meeting basic health needs of populations in developing countries" is interested in the study.

The task of the Consultant was the evaluation of health services offered to Alaska Natives, based on observations in two service units in 1973 and on observations in northern parts of Alaska during a study visit in 1971.

The study and evaluation focused on:

- Definition of aims and objectives for the service offered;
- Estimation of the adequacy of priorities chosen, the attention to curative, preventive and social services in relation to the actual pattern of problems and diseases;
- Study of the effectiveness — results seen in relation to expectations, including studies of the coverage of services, accessibility and utilization rates, types and standards of services offered, and methods applied;
- Study of the efficiency — a cost-benefit analysis, which implies studies of profitability of methods applied, and of input and output relations;
- Trends in the present and future development of health and social services.

THE ALASKA AREA PROFILE

Alaska is located on the northwest tip of the North American continent. Its land area is 1.47 million sq. kms, or about one quarter of the world's arctic land. One-third of Alaska lies north of the Arctic Circle. The population is

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300,382 (1970 census), of whom 20,000 (est.) are military personnel, and 53,296 are Native.

Alaska is the largest and the least populated of the 50 American States, with an average density of one person per 5 sq. km. (USA 50/sq. km., Sweden 19/sq. km.). Of the total population, 75 per cent are urbanized.

The majority of the Natives live in 228 widely dispersed villages. Ten thousand live permanently or temporarily in the six largest urbanized areas. The major native town is Barrow, on the North Slope, with over 2000 inhabitants. In general, the villages have no connection to a highway system. Large regions are empty areas, especially the endless, treeless and trackless tundra in the north.

Some factors, peculiar to the northern latitudes and Alaska should be mentioned:

The light cycle with short summers and midnight sun, and long polar nights of winters affect biological cycles of nature.

Extreme temperatures are responsible for an eternally frozen subsoil, permafrost or tundra. Studies of permafrost remain a major obstacle to development, as it underlies about 60 per cent of Alaska's land mass — and 20 per cent of the total land surface of the whole earth.

The tundra is hard to excavate for cellars, cemeteries, wells and pipelines, and it has reduced capacity to absorb sewage. Thawed on the surface every summer, permafrost allows no drainage for the water, and the tundra landscape is dotted with an endless number of fresh water pools.

Chemical and biological reactions and destruction are retarded at low temperatures, complicating sewage and waste disposal. Unless special precautions are taken, sewage pipeline contents will freeze. The foundations of highways and buildings often settle or heave as a result of disturbances in the permafrost.

Unusual distances together with a harsh climate have reduced road construction to a minimum, only linking Fairbanks and Anchorage with each other, with their surroundings, and with Canada and the "Lower-48." Surface transportation is largely by waterways, unreliable during the prolonged periods of break-up and freeze-up. Local transportation, in the past by dog teams, is now mostly done by snowmobile and "bush pilots," with schedules being determined by the weather.

The ecological resources are meagre and Alaska presents the lowest per capita figures on area of cultivated land and on "live animal mass" in the world.

This all adds up to the fact that traditional development investments are deemed to be "unprofitable" and in some cases unjustifiable. However, rapid changes in the economy and in the structure of social and political organization are expected to occur in response to the Native Land Claims Settlement Act and to oil development activities.

Within a period of 1-2 generations a dramatic cultural and economic shift has taken place among the Native population, from nomadism and self-sufficient household economy to a sedentary life and monetary economy.

The original population of Alaska consists of Indians and Eskimos, who invaded North America from Asia some 15,000 years ago. Out of the total number of Alaska Natives today, 37,020 are Eskimos and 16,276 Indians.

The total number of Eskimos in the world today is about 90,000, distributed as follows:

	38,378 in Greenland (1969)
	37,020 in Alaska
approx.	15,000 in Canada
approx.	1,500 in Siberia (Yunites)

Eskimos occupy about 5,000 sq. km. of land area, with a distance of 5,000 km. between the extreme easterly and westerly groups.

The main part of the Alaska population — and of non-Natives — is made up of "transplants," persons not born in Alaska, but for longer or shorter periods assigned for education, health or administrative services.

The heterogeneous population of Alaska with different backgrounds, cultural and social patterns, languages, and expectations, complicates the development of health services.

THE HEALTH SITUATION

Up to 1962 the Native birth rate was around 45 per 1000 population. In 1970 it was 30 (20 for all USA).

The death rate in 1970 was around 8 (USA in total 10). An explanation for the low death rate of Alaska Natives is the low median age of the population, 18.5 years (USA = 30.1) in 1959.

The leading causes of death vary little from district to district, with accidents, congenital malformations and pneumonia on the top.

Deaths caused by alcoholism have (1960 to 1970) increased from 10 to 40 per cent per 100,000 population. Malignant neoplasms are slowly becoming relatively more important, as are cardio-vascular diseases — in both cases partly due to the prolonged life span.

Infant mortality in 1950 was about 100 per thousand births; since 1970 it was below 30. The first week of life accounts for a considerable number of deaths. The dramatic reduction of the infant mortality was due mainly to a marked decrease in deaths during the post-natal period and to reduction of environmentally related diseases, such as respiratory tract infections and gastro-enteritis. This has been attained primarily through a considerable expenditure on therapeutic services and immunization programs. Practically all Native births have antenatal care and take place in medical facilities (95 per cent in 1970).

Leading causes of hospitalization among Natives are otitis media, mental diseases, pneumonia and fractures. Leading consumers of inpatient days are: deliveries, tuberculosis, otitis media and fractures.

Almost half of the inpatient activity at the Alaska Native Medical Center (ANMC) in Anchorage is service to Natives living outside the Anchorage Service Unit (45.2 per cent of all admissions). Resources for the treatment of mental diseases in other places are rudimentary.

As a general trend, admissions for inpatient treatment in all Alaska are going down (9,810 in 1970), in spite of the population increase. However, more cases are referred to Anchorage, where, since 1960, the admissions have more than doubled, up to 1970 (5,830).

The average length of stay was in 1970 more than three times shorter than in 1960. A result of and explanation for this dramatic change is a fourfold increase in the outpatient visits (65,971 in 1972). From other service units came 17 per cent of all outpatients. Inpatients from far away stay longer than local patients. In 1968 residents from Barrow stayed 42.8 days as an average (for all patients 15.8 days).

HIGH PRIORITY HEALTH PROBLEMS

Due to the extreme climatic conditions and permafrost a number of technical and sanitary problems await solution. In Bethel, a town resting on 400 feet of permafrost, experiments have been carried out with drilled wells and permanently circulating water, to avoid freezing. There is also a trial with sewage pipes, each for 5 to 10 households, regularly used for short moments, in order to prevent freezing.

Compared with other social arrangements, housing as a whole is dilapidated with an adventurous variation in design and materials, indicating lack of standards and professional guidelines. The design of walls, doors and windows are often inadequate for the climate. A program in Bethel with experimental low cost housing has been launched.

Eskimo dwellings are often crowded and underventilated, the waste disposal is primitive and the water supply unsanitary. It is generally accepted that Eskimo substandard housing contributes to the high incidence of environmentally related diseases such as acute viral and other respiratory diseases, pneumonia, otitis media, streptococcal throat infections, rheumatic diseases, skin diseases, accidents and even some mental disorders.

As part of a high prevalence of mental diseases, alcoholism is a health problem of increasing dimension and a challenge to health workers. Although economic resources are available, "know-how" is insufficient for fighting this pest. The social and cultural factors behind alcoholism are difficult to influence. The consequences of alcoholism are many, e.g., high incidences of violence, accidents, cirrhosis of the liver and family break-ups. Alcoholism is considered a direct or contributing cause in 20 per cent of all deaths, and in 1968 the mortality rate for alcoholism among Alaska Natives was 14 times greater than the rate for the general U. S. population.

Suicides were reported as follows (1965-68):

All U. S.	All races	10.9	(cases per 100,000 pop.)
	Whites	11.7	
	Non-whites	5.0	
Alaska	Whites	15.0	
	Natives	23.0	(sic! highest in USA)

Otitis media — the most common Native childhood disease — has attracted much attention and is a notifiable disease. Approximately 10 per cent of the school age Native children have had chronic otitis media with resulting hearing loss. In 1969, a large scale rehabilitation program started, with reconstruction operations of perforated tympanic membranes. Children are transported to Anchorage for surgery. From 50 to 90 per cent continuing good results have been reported.

Nutrition is not a high priority health problem. However, as several other physical illnesses are now brought under control, there are resources to correct even minor nutritional deficiences.

No people today depend on local food exclusively, and 40-60 per cent of the food, and 80 per cent of the protein, of Native villagers is locally caught fish and game. Apart from seal in winter, there is plenty of fish and in some places caribou (spring and fall). It appears that, with the reduction of dog teams and the need to hunt and fish for dog food, there has also been a reduction in fishing for human consumption.

Around 50 per cent of calories consumed are obtained from imported foods, including cereals, canned milk, margarine, bacon, sugar, tea and coffee. Coca Cola, beer, ice cream and chewing gum have also crossed the cultural barrier and found their way into the Eskimo diet. Most of the food imported consist of carbohydrates and is cariogenic.

The Alaska Dietary Survey of 1951-1961 offered information on the nutritional status of the Alaska Natives. In 1972 conditions were again studied (Scrimshaw). Apart from anemias, and presumed shortage of calcium and ascorbic acid in the diets, there seem to be little of evidence of nutritional disease.

The tuberculosis incidence in 1952 was over 1500 per 100,000 population, but in 1970 only 150 (USA as a whole 15), and deaths from tuberculosis are almost negligible. Tuberculosis, for well over a century a serious scourge, is now under reasonable control. Routine BCG-vaccination is no longer indicated.

Alaska has the highest rate of gonorrhea in the United States (in 1970, 888 cases per 100,000 population) and an increasing number of syphilis cases.

ORGANIZATION OF ALASKA NATIVE HEALTH SERVICE

Four Federal authorities are responsible for social and health services:

(1) The Department of Interior, through its Bureau of Indian Affairs (BIA) — inter alia — cares for education and welfare in general.
(2) The Department of Housing and Urban Development supports low cost housing.
(3) The Department of Health, Education and Welfare and its Indian Health Service (IHS), directs the health efforts to Indians and Eskimos.

Alaska has a total of 1263 hospital beds (1973) for the non-military population, of which 724 (rate 3.5/1000 pop.), are for non-Natives and 539 (rate 10/1000) are for Natives.

The Alaska Area Native Health Service has its headquarters in Anchorage along with a central hospital, the Alaska Native Medical Center (ANMC). This 276-bed hospital is a multi-purpose facility serving as a referral hospital for Natives throughout Alaska. The other six service units each have their own hospital with 14 beds in Barrow, Bethel 47, Kanakanak 31, Kotzebue 50, Mt. Edgecumbe 100, and Tanana 26.

The ANMC has a total staff of 425 (40 per cent of whom are Native). There are 40 physicians, of whome 22 are specialists.

The Native Health Service also deals with environmental sanitation, housing, water supply, and sewage disposal.

(4) The Office of Economic Opportunity (OEO) funds the YKHC in Bethel and the NSHC in Nome, "regionalized consumer-controlled health delivery systems serving Eskimo people."

The State of Alaska is responsible to all Alaskans for tuberculosis control, mental health, maternal and child health and family planning, public health nursing and nutrition.

The Native Land Claims Settlement Act provides considerable funds to the Native population and is expected to influence village standard of living.

In 1971 the number of physicians in Alaska was 361, making an average of one doctor for 837 population. All had their graduate training outside Alaska.

Of the 80 physician posts in the Alaska Native Health Service, 6 are in administrative positions, 40 are at the ANMC in Anchorage, while the remaining are placed in the other service units:

		Sq. kms.	Native population
Mt. Edgecumbe	12	95,000	9,940
Bethel	7	190,000	11,090
Tanana	4	415,000	6,220
Kotzebue	4	200,000	8,580
Kanakanak	2	100,000	3,500
Barrow	2	210,000	2,090

The cornerstone of the health delivery system for Natives is the 185 indigenous auxiliary workers, Community Health Aides, placed in 156 Native villages. Each one has been selected by their village council and trained in Anchorage, Bethel or Nome. Each aide has a drug kit with instructions for use. They treat minor illnesses, do the first line screening of cases and arrange necessary transportation. Each day physicians at the nearest hospital conduct scheduled radio medical traffic in which health aides call in, report medical problems and receive advice. The public health nurse and physicians from the hospital visit each village about ten times a year, providing advisory and curative service.

The health aide salary is $400-510 per month, from Federal funds, administered through a contract with Native organizations.

BETHEL SERVICE UNIT

The estimated Native population in 1972 was 14,000. With an area of 220,000 sq. kms. the average density is one for 15 sq. kms. The town of Bethel has a population of 2,800, and 50 Eskimo settlements have together 11,200. Ten villages have a population below 100, 16 have 100-199, 12 have 200-299, and 11 have 300 or more population. The estimated population increase per year is only 1.1 per cent, explained by family planning and a continuous migration to urbanized areas.

In summer-time transportation is carried out by boats, in winter by snowmobile, and all the year round by aircraft. During freeze-up and break-up seasons a helicopter is stationed in Bethel and available for transportation. Although half of the villages are located more than 160 kms. from Bethel, practically all can reach the hospital by a 45-minute flight.

Health services. The area and villages are divided on 7 districts, each with a public health nurse and a District Medical Office, all stationed in Bethel — except one, who is permanently stationed in the village of Aniak. All villages have health aides and radio-telephone.

The Bethel Hospital has 47 beds. During 1971/72 there were 1999 admissions with 14,390 patient days, of which 11,727 were for the 35 general beds (utilization rate 92 per cent). Of the 1999 admissions, 404 were obstetric cases. The average stay for obstetric cases is 5 days, and for general cases 7.5 days.

The hospital has seven physicians, who spend short periods in the field. None of the doctors have public health training. Physicians, as a rule, stay in Bethel for two-year assignment, serving in lieu of military service. Thus, there is a frequent turnover of physicians, and a limited pool of accumulated local experience to be used in health planning.

The number of outpatients in 1971/72 was 6,986 with a total of 25,706 visits. Fifty per cent of all outpatients come without being referred to the hospital. Of the total health unit population, 50 per cent are seen each year as outpatients in Bethel, and each inhabitant has 1.8 outpatient visits per year. Of all visits, 15.8 per cent were by 2.9 per cent of all outpatients. High-users often come from nearby the hospital. Respiratory diseases and otitis media were responsible for 20 per cent of all visits.

Specialists from ANMC visit field hospitals regularly, see patients in consultation, perform surgery and diagnostic studies and teach.

Bethel has a prematernal home, where expectant mothers from outlying villages may, because of the uncertainty of travel especially during freeze-up and break-up seasons, come 3-4 weeks before their anticipated date of delivery, which then takes place at the hospital.

The average work load at the Bethel hospital per day — seven physicians — could be calculated as: 4 new patients admitted, 28 new outpatients and 70 return visits (five days per week), care of 32 inpatients, one delivery per day, occasional field work.

Patients at the Bethel Hospital 1971/72 by districts:

District	Population	Outpat. visits per capita/year	Inpat. discharges per capita/year
No. 1 (Bethel)	2782	5.8	0.309
2	1955	1.22	0.180
3	1912	1.06	0.138
4	1365	1.17	0.141
5	1841	1.25	0.156
6	1930	0.99	0.158
7 (Aniak)	1376	2.52	0.096

General development trends have been:

— A successive reduction of the number of admissions and reduced average stay (in ten years cut from 13 to 7 days).

— Increased number of outpatients and referrals to Anchorage.

— More cases taken care of by community health aides.

Availability of local services seems to influence the utilization pattern of services in Bethel while distances seem to be of minor importance. Severe weather in western parts of the service unit offers seasonal transportation problems.

Of all ANMC inpatients (in 1971/72) 1015 cases (17.4%) came from Bethel and out of 15,375 outpatients seen, 5 per cent were from Bethel.

The Yukon-Kuskokwim Health Corporation started in 1970. Its aim is threefold: planning, coordination and training, all in the field of rural health. Their work embraces dental service, control of alcoholism, training of village health aides, follow-up of tuberculosis, mental health and otitis media cases, eye-glass service, and sanitation activities. Two physicians and a great number of local Eskimos are employed.

Two village visits were carried out by the Consultant. Kwigillingok on the coast is a traditional village with a hunting and fishing population of 188. The village health aide had about one year training. She has a drug kit with about 30 medicines.

Going to Bethel with the mail-plane (45 min.) costs $27 one way (chartered plane $105). Transportation ordered by the doctor is free. The health aide sees 2-5 patients per day and has radio consultations with the hospital in Bethel 3-4 times a week.

The leading health problem is considered streptococcal throat infections. Tuberculosis has become a minor problem, and alcoholism is regarded as well controlled by strict village rules.

Kwigillingok represents a place where traditional living, and self-sufficient household economy have been amalgamated with modern life and social services in an ideal way.

Lower Kalskag, located inland along the river, represents a village where conditions during the last few years have considerably improved. A previous high prevalence of tuberculosis is now much reduced. A sawmill provides lumber for log houses, dominating the village. A water supply and sewage disposal program is almost finalized.

The village health aide sees 2-3 patients per day. There are regular mail-flights to Bethel (45 min.) and to Aniak (10 min.) where a field medical officer is permanently stationed. He can be reached by snowmobile, or in summertime by boat (2 hours).

KOTZEBUE SERVICE UNIT

The Kotzebue service unit has a population of about 9000, occupying 197,000 sq. kms. of tundra. Its southern part is the Norton Sound district with the "gold-rush town" Nome as its center (2500 inhabitants).

The birth rate has successively dropped and an annual emigration of about 200 has reduced the population of Norton Sound. The average density of population is one for eleven sq. kms. Most settlements are characterized by an extreme inaccessibility, with 80-200 kms. by air to reach the hospital in Nome or in Kotzebue.

The Nome hospital is old and out-dated. It has 24 beds, two physicians, five registered nurses and X-ray facilities. One public health nurse is stationed on St. Lawrence Island, one in the Unalakleet village. Each village is visited by a nurse 3-4 times per year, and by a doctor twice. Leading health problems are respiratory diseases, otitis media, injuries and rheumatism. In 1970 eight cases of hydatid cysts were seen.

In one year the total number of inpatients was about 600 (average stay 4 days). The utilization rate is about 30%. Seven per cent of the total population utilize the hospital as inpatients once a year. Natives living in the town have, as an average, 3 inpatient days per year (US = 1.2). In 1971/72 Natives, as an average, made 2.1 outpatient visits per capita.

The Norton Sound Health Corporation is similar to the YKHC project in Bethel, with similar activities, and a staff of 20, the majority being Eskimos, under an Eskimo executive director and two physicians. Two registered nurses are field trainers. Three staff members are working with alcohol problems. Commercial flights are chartered for field visits. The annual budget amounts to about $800,000.

In the 16 major settlements of the district, 17 health aides are stationed, all with radio-telephone facilities.

The Consultant visited the coastal village of Elim, with 160 inhabitants, a community health aide and a newly constructed health center, with radio-telephone. As an average, two patients are seen per day. The construction cost for the center was $22,000.

HEALTH ECONOMICS

The Federal Budget for the Native Health Service has in five years increased from 18 to 28 million dollars, an annual increase of 8-10 per cent, which is matched by the annual increase of the Native population (about 3 per cent) and a general increase of costs and salaries (6-8 per cent per year).

Of the 1972/73 budget ($28 million) $9.5 million is used by the Area Office in Anchorage, the ANMC, and the Anchorage Service Unit. The rest goes to the other six service units.

The Bethel Service Unit expenditures for health can be divided up into three main resources:

(1) Communities contribute to their health services, e.g., by offering assistance when health centers are constructed.

(2) The State of Alaska covers the cost ($0.6 mill.) of public health nursing and epidemiology for all Alaska population (one-third is paid by the Federal Government). The Bethel Service Unit accounts for one-third of the total expenditure.

(3) Federal government contributions:

  (a) The total funds allocated to Bethel are $3.1 million, of which 0.5 million is for field work, including training and wages of village health aides. About 60 per cent are spent on activities in the town of Bethel and the Bethel hospital.

  Non-Native patients pay for hospital care $70 per day and $18 per outpatient visit. The real cost per patient-day is $121, and per outpatient visit $11.

  (b) Costs for treatment outside Bethel: Of all admissions at the ANMC in Anchorage, 45.2 per cent came from outside the Anchorage service unit, and 17.4 per cent from Bethel (25% of all patient-days). The cost for care of the Bethel patients was $2.7 million or 28 per cent of the total patient costs at ANMC.

  (c) The YKHC annual budget is about $1.3 million.

If the expenditures are summed up, we get a total of over $7 million spent in one year for health services on the Bethel Native population (10,877), making an average of about $700 per capita.

The total Alaska area funds (FY 1972) were $28 million, of which 22.8% ($6,398,000) were expended for the Bethel Service Unit. Of the total Alaska Native population (officially 53,296), 10,877 (20%) live in Bethel service unit. Partly because of the nearness to services offered in Anchorage, The Bethel population are "over-consumers" of health services in relation to other service units. The average per capita expenditure for Alaska Natives is $542 per year (for Bethel Natives $706).

DISCUSSION AND EVALUATION

The Alaska Native Medical Center was started in 1953 with the primary aim to support tuberculosis control. The program developed to a comprehensive system of health services for all Natives. The "Parran Report" (1954) was the first recommendation of an organized attack on Native health problems.

The Parran team found a Native Alaska, with a population on a marginal subsistence level, riddled with tuberculosis and other infectious diseases, malnutrition and high infant mortality. Health services were inadequate and village sanitation almost lacking.

The recommendations of the team were based on the premise that every Alaskan is entitled to the same assurance of life and health which is inherent in the citizenship of every state. However, the difficulties of applying stateside professional standards to Alaska conditions were stressed.

As fundamental steps toward improved health were urged: Joint action between Alaska and the Federal government; settlement of Natives in communities of such a size and accessibility as to afford educational and health services; a practical maximum of decentralization of health services and health administration; and training of Native field staff.

"Alaska is unfinished business," was a slogan of the Parran team. Since this report was presented, two decades have brought a remarkable development in health in Alaska. Another paper explained: "It is considered unacceptable that Native people (in Alaska) should continue to have the lowest health status of any population group in the United States." The state of education, health and economics was considered the poorest in the nation. A further motivation was the observation that the effect of poverty, cultural clash with the modern world, the geographical isolation and adverse physical environment, all "combined to develop in many Alaskan Natives a frustration, alienation and sense of hopelessness."

In the early days, Eskimo and Indian communities depended on hunting and fishing. They were semi-nomadic bands inhabiting an inhospitable world, claiming an inordinate effort and intelligence in procuring food and for survival.

In today's world, cultures are constantly changing The rate may be minimal — i.e., cultural "drift" — or it may be maximal, as when one society completely assimilates another. A culture is never static. Any breaking of isolates, however, offers delicate problems, sometimes wrongly tackled by authorities involved. In the transitional phase following the initial changes and lasting one or two generations, few people — both inside and outside the concerned group — know how to deal with problems in an adequate and considerate way. Already the change to a monetary economy from a self-sufficient household economy is a sensitive thing.

The results of such transitions are often alarming and call for discretion and "hurry slowly." The guidance of people over this period is a great responsibility and challenge. The juxtaposition of two different cultures results in acculturation, by which people lose valuable ingredients of their Native culture and inheritance and often adopt less valuable parts of the new culture they are driving at. They stand with one leg in two cultures and lose their cultural self-confidence.

In the transition it is important in which order and speed development steps are taken; whether the concerned population have asked for changes, whether these are imposed from outside; or whether they themselves understand the long-term consequences.

We may well be able to control diseases such as polio and tuberculosis by a massive economic input, but the social environment and the human being may not be able to hang on the high speed. He may end with a social and mental deprivation although he is physically perfectly healthy and well nourished. The expected length of life of the Alaska Eskimo is now only 6 years shorter than in U.S. in general and the infant mortality is unexpectedly low. But as far as mental and social well-being is concerned, "know-how" cannot be purchased, but may come with dear experience.

It could be questioned if a place — such as the tundra — is suitable for permanent settlements; if ecological prerequisites for a certain level of standard of hygiene and living can be met; fuel available for heating of the houses in an arctic climate; or if health and educational services can be offered. These questions ought to be dealt with before steps are taken which may guide the development in the direction of permanent settlements.

The tundra, on which it is possible for a tough nomadic hunter to survive, does not seem to be a suitable place for establishment of a western civilization. The technical problems involved in an adaptation to a settled life, permanent housing and urbanization are not yet solved. If they will be solved, they will claim enormous costs and subsidy from outside.

One should not hesitate to encourage the moving of population groups to places where there are prerequisites for a demanded standard of living, without assistance from outside. Empty areas and abandoned villages may have to be included in the calculations of the planning. It is unlikely that a standard reached and maintained at great effort by assistance from outside, which may be eternal, is a realistic base for social self-confidence. With the communication systems of today it is not likely that anybody in the future will accept a standard of living substantially lower than that of their neighbors and countrymen.

By offering — or not offering — facilities for education, health services, communication, etc., development can certainly be influenced. Thus, any new introduction should be looked upon as part of a long-term plan aimed at keeping people in a certain place, and resulting in changing cultural patterns. Unexpected and unwanted changes may be the result of unplanned assistance.

Eskimos are pragmatists known for a high technical development in their natural setting, while there seem to be little incentive for social and political organization in their traditional agglomeration. After settling in permanent communities there is certainly use for social structure and technical know-how in hygiene and environmental sanitation.

In principle — and beneficially — Alaska should be classified as a developing country and be compared with its counterparts in other parts of the world, including the Tropics. Too rigid latitude-thinking may hamper a fruitful exchange of experience. Terms such as "arctic medicine" and "tropical medicine" are expressions of convenience rather than distinction. In both cases it is rather a question of underdeveloped areas. Alaska presents extreme climatic conditions, which — like hot climates — may create some stress, but primarily obstacles to modern technical development. Frostbites are about as unimportant in the Arctic as sunstrokes in the Tropics.

A second characteristic is under-population, which is also found in many arid areas of other developing countries. Alaska presents sparsity of population in the extreme, with a density in all Alaska averaging one for 5 sq kms, in the Bethel and Kotzebue areas one person for 10-20 sq kms. The Alaska surface corresponds to all of Scandinavia, but has a population about the same as Iceland.

Thus, there are three basic characteristics and decisive factors: underdevelopment, underpopulation and extreme arctic climate. Because of the resources and generosity of the U.S. Government, we could add a fourth characteristic: "overprotection" — especially when we compare Alaska with other developing areas of the world.

Although the total Eskimo population is only one 50,000-part of the world's total population and the Alaska Eskimos represent about one 10,000-part of the total U.S. population, studies of this population are of principal interest as Eskimos represent one of a multitude of similar minorities, in transitional phase all over the world, often misunderstood and wrongly treated — if not totally neglected. It is worth studying the adaptation of the Eskimo to an extreme environment, being the only people of the world living permanently in a real arctic environment and who have developed their adaptation and their cultural and social patterns by using the arctic ecology to their maximum advantage.

The Eskimo world is now involved in the rapid technological and social revolutions that have rather indiscriminately swept around the globe in the past few decades. The Eskimo scene is characterized by a rapid shift from nomadism to sedentary life, from a subsistence household economy to a monetary one. A state of transition from tradition-laden customs and values to those of an encroaching western technological society. In many places a painful adaptation to a westernized life has meant abandoning of ingredients of the traditional Eskimo culture. Although the Eskimos are adaptable to new ideas and conditions there are sequels to this transition, and the process of acculturation is accelerated as the dependence upon technology increases.

Changes also affect the health status, insofar as new patterns of illness emerge. Thus, medical care systems must undergo modification as demands for services change and increase. This situation calls for frequently repeated studies of the health situation and the effect of the health situation and the effect of health services.

Alaska is in a unique position, as financial and technical know-how resources are sufficient for a rapid development. The Federal Government spends about $700 per Native and year on pure health services (a figure for the Danish assistance to Greenland Eskimos, $900, include some social services). Several health problems have in both places been solved in a minimum of time.

In most places of the world physical health has come slowly and largely as a side effect of general social, economic and hygienic development of societies. The slow development has been a necessity due to financial limitations. The curve of development in most developing countries is far more flat than that of USA in general. The curve for Alaska seems to have been too steep. Roger Revelle (Past chairman, US National Committee for the IBP) said: "Our technology outplaced our understanding, our cleverness has grown faster than our wisdom."

"It is doubtful, that further significant improvement will occur without major environmental modifications . . . Housing and sanitation, which significantly influence the dissemination of acute respiratory disease must be improved before reduction in the disease will be noted." (Fleshman)

Inadequate, underventilated housing has been accepted as a factor behind acute viral respiratory diseases, prevailing with exceptional frequency in smaller communities in Alaska.

In spite of the well-known relationship between the high incidence of tuberculosis and unfavorable socio-economic conditions, especially housing, control of tuberculosis has been achieved in Alaska, in a short period of time, without going the long way.

Medical care in Alaska has in the past taken precedence over preventive medicine. There is, for a sparsely populated area, an unusually good network of infrastructure, supplemented by radio-telephone, supervision, and rather unlimited air transport. Thus the accessibility and the utilization are high, counted per capita served.

Mental and social health problems are rapidly increasing. Neurosis, suicide, venereal diseases, alcoholism, crime, and a "cargo cult" with "allowance-minded" individuals seem to be brewing. Rapid cultural changes, increased mobility and a continual separation of Native families, as is often required in modern development, are factors of importance to socio-medical diseases now dominating the morbidity pattern.

In summing up one could say, that the Native Health Service generally focuses on proper priorities, with an increasing attention to socio-medical, mental and environmentally influenced diseases, whereas a series of physical diseases, previously dominating the morbidity and mortality pattern have been brought under reasonable control. The effectiveness of the program can also be seen in the surprisingly good geographical coverage of services, in spite of extreme conditions. Looking at the efficiency, the high per capita cost for health services could be explained by unusual geographic conditions and by the fact that the remote villager in Alaska is offered health services, non-available in comparative areas in other parts of the world.

It is unlikely that the health budget can reach higher figures. Ways and means of cutting down service costs are therefore being sought. A certain extravagance may exist with overstaffing of hospitals and construction of health centers in places with small population. Striving at treatment of cases at the right level in the service hierarchy, avoiding more expensive hospitals with, in relation to the individual case, unnecessarily qualified care, simplification of the administration, etc., may be methods to improve services without budget increase.

The ANMC system of sending specialists to field hospitals rather than bringing patients to Anchorage is a wise method with psychological effect and financial savings involved.

The two pilot projects, YKHC and NSHC, with their mobilization of Native cooperation and striving at a greater proportion of services carried out at the village level are convincing, and may in the long run not only develop alternative and less expensive services, but also create a confiding atmosphere in the collaboration between two ethnic groups.

Although the resources in other parts of the world are more limited, much can be learned from health services in Alaska. The physicians in Alaska generally are broadly public health-minded and interested in health planning, and few countries offer a visitor better written and oral information on public health matters.

The Eskimo population of Alaska, apparently, is a group characterized by a great ability and willingness to accept innovations in their culture, from imported food, snowmobiles and airplanes, to modern health services. The life style — at least superficially seen — is therefore rapidly changing. For multidisciplinary studies like those carried out by the International Biological Programme of "man's survival in changing world," the Alaska Eskimos are a gold-mine.

CONCLUSIONS

The reporting system, as well as the epidemiological registration could be modernized so as to center even more on socio-medical and environmental health problems constituting major health problems today. For comprehensive planning more information in these fields would be useful.

The Alaska Native Health Service has reached a stage in which a series of formerly widespread physical diseases have been brought under control, and a number of socio-medical problems are dominating.

A number of still existing physical illnesses are caused by or perpetuated by inadequate hygienic and living conditions in the villages. Thus, a major basis for better health of rural Alaskans will be improvement of housing, environmental sanitation, education and other socio-economic factors.

A socio-medical approach to the health problems calls for coordination of different health activities, avoidance of overorganization and fragmentation. The total Alaska population is much less than what is usually included in a region in countries regionalizing their health services. Total Alaska should be looked upon as one region, with only one place for the most qualified services, avoiding uneconomic duplication of service. The training of health aides, standardization of drug manuals and instructions could be done in one place and be uniform for the whole of Alaska.

Integration of curative, preventive and social services could possibly be even more united at village as well as at field hospital levels.

The fragmentation of fiscal responsibilities on a number of authorities indicates a need for a radical reform of the whole health service organization and administration, preferably without the traditional — and no longer warranted separation of population into Natives and non-Natives. A comprehensive national health insurance may be the final solution. In the interim, and until health services are unified, one agency should have the responsibility for gathering data related to health, for planning and cost-benefit analysis.

A sketched long-term plan for the rural Alaska health and social services would be valuable, stating priorities and recommending places for new or increased settlement and others for a de-population.

The recruitment of qualified health personnel for work in remote areas will continue to be a problem. The frequent turnover of doctors and nurses is disturbing, as the pool of knowledge to be used for planning will always be limited and superficial. Converting of military service to medical field service as well as prescribing this service as a compulsory part of a career can partly solve the problem. Upgrading of the jobs with better payment may help the recruitment and encourage personnel to come, and to stay for longer periods.

The question of training of auxiliaries, such as physician assistants, for life-long assignments to remote districts is worth attention — and is being discussed in Alaska.

Health cannot be given to people, it requires their participation. The role and responsibility of local residents in policy-making and decision is already apparent and increasing. Their co-operative attitude could be utilized further for solving of more problems at the village level. The new funds created by the Land Claims Act, hopefully, could be geared towards improved environmental conditions.

Due to geographic and climatic peculiarities health service system to scattered population such as in Alaska is bound to be expensive. Many of the weaknesses of services in comparable areas in other countries have been overcome in Alaska, but at a high cost. Geographical maldistribution of personnel, malproportion between different staff groups, the shortage of some personnel, supervision of field services, etc., need further study.

In the present economic crisis more consideration to the principle of utilization of the "lowest efficient care-taking" level would be valuable. □

ACKNOWLEDGMENT

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[Because of the length of this paper, specific references are not printed here. A listing may be obtained by writing the Editor.]

HEARING LOSS IN SOUTHEAST ALASKA

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INTRODUCTION

Health professionals in Alaska frequently state that the rate of ear disease and the incidence of hearing loss are abnormally high compared to statistics from other states. The studies thus far accomplished in Alaska have for the most part studied the problem in small Eskimo populations living in remote villages, and have dealt primarily with ear disease incidence, hearing loss being of secondary importance.

Our interest in preparing this paper was to present statistics on hearing loss in a large population of Southeast Alaskans. These statistics were compiled from the files of the Audiology and Otology Units at the Mt. Edgecumbe Alaska Native Hospital in Sitka.

PROCEDURES AND METHODS

Audiometric screening tests for hearing were administered to 5,461 school children (K-12th grade) out of a total school population in Southeast Alaska of 12,642 during the 1971-72 school year. The screening was accomplished under the supervision of a certified audiologist with the Alaska Department of Health and Social Services and in most schools was done by public health or school nurses.

The screening test consisted of checking for patient responses to pure tones of 500, 1000, 2000, and 4000 Hz (cycles per second) at a level of 25 dB. The audiometers used were all portable and were calibrated to ANSI standards prior to the school year. Patients were tested individually, and anyone failing to hear a frequency from 500-2000 Hz in either or both ears was referred for a complete hearing threshold test. If only 4000 Hz was not heard, the threshold level of this frequency was determined but not counted as a screening failure.

Children failing the screening were then given a threshold test by an audiologist. Those individuals failing the hearing threshold test were referred to their family physician or to an otologist for medical evaluation.

RESULTS

The number of school children in Southeast Alaska during the school year 1971-72 was 12,642 with approximately 36% being Native (Tlingit-Haida, Tsimpsian, Eskimo, Aleut, and Athabascan). The number of students screened for hearing that year (5,461) represents 43.2% of the total school population. Of the students screened 44.7% were Native and 55.3% were non-Native. Students who were found to have impaired hearing were 372 in number, a prevalence of 6.81 per cent.

Table 1 gives the prevalence of hearing loss in 18 towns and villages in Southeast Alaska.

Table 1
% Hearing Loss by Schools in S.E. Alaska
1971-1972

Village	Total school enrollment	No. hearing screened	No. hearing impaired	% school hearing impaired
Juneau	4150	611	80	13.0
Ketchikan	2948	1451	32	2.2
Sitka	1798	889	64	7.2
Petersburg	659	211	26	12.3
Wrangell	616	580	20	3.5
Haines	463	265	4	1.5
Mt. Edgecumbe*	343	238	27	11.4
Metlakatla*	337	152	38	25.0
Hoonah*	302	152	10	6.6
Skagway	217	211	1	.5
Kake*	182	178	20	11.3
Annette	142	142	8	5.6
Angoon*	120	103	9	8.9
Yakutat*	113	78	10	12.8
Craig	110	55	3	5.5
Klawock*	62	62	9	14.5
Hydaburg*	55	55	9	16.4
Klukwan	25	25	2	8.0

*Predominately Native populations

The table is arranged in descending order according to the size of the school district. For the most part, the smaller school districts have the highest prevalence of hearing loss, and also have the highest percentage of Native enrollments.

Table 2 shows the type and extent of each hearing loss. The majority of hearing losses are of a mild nature and are typically conductive.

Table 2
Type and Extent of 372 Discovered Hearing Losses

Mild bilateral loss (24-40 dB ANSI) 66.7%	
Conductive type	227
Mixed type	4
Sensori-neural type	17
Moderate bilateral loss (40-55 dB ANSI) 19.0%	
Conductive type	50
Mixed type	9
Sensori-neural type	12
Mod-Severe bilateral loss (55-70 dB ANSI) 1.6%	
Conductive type	0
Mixed type	2
Sensori-neural type	4
Severe bilateral loss (70 dB ANSI) 0%	
Mild to Moderately severe unilaterally 9.6%	
Conductive type	23
Mixed type	10
Sensori-neural	3
Severe unilaterally (70 dB) 2.1%	
Conductive type	0
Mixed type	1
Sensori-neural	10

There were no discovered cases of severe bilateral hearing loss, although 2.1 per cent of the threshold failures were of a severe unilateral nature. An additional statistic of importance is that besides the 6.81 per cent prevalence of loss for 500-2000 Hz, 0.9 per cent of the total students screened had a high frequency loss only (measured at 4000 Hz). Although statistics are not available from other studies for this problem, it is felt that this 0.9 per cent is quite significant, as noise exposure is the primary reason for a loss at 4000 Hz only.

DISCUSSION

To understand the revelance of these statistics it is important to examine the figures of other studies accomplished in northern areas of Alaska and in other states. The extent of hearing loss in schools in the lower United States has been demonstrated in many studies. Most of these show that between 2.8 and 4.0 per cent of school children have significant hearing losses.[1] Studies carried out and published for Alaska have been initiated without exception in rural Eskimo areas. The primary purpose of these studies has been a study of ear disease with a secondary purpose being to measure the prevalence of hearing loss. Even though study groups in these publications have been relatively small, the prevalence of hearing loss reported has been phenomenal ranging from 13%-33.7%.[2,3,4,5,6,7]

The differences between the prevalence of hearing loss in the three regions of Alaska (northern, southcentral, and southeastern) have never, to our knowledge, been fully explored, either hypothetically or empirically. The statistics in our study show a 6.81 per cent prevalence of hearing loss in Southeast Alaska, which is much higher than other areas of the United States, but considerably less than reported prevalence figures for the northern and southcentral areas of Alaska. We hypothesize several reasons for this situation.

Because of the isolated nature of many northern and southcentral villages, medical care is not always as readily available as in the southeastern area. Median income levels are higher and the numbers of persons per household are lower in Southeastern Alaska as compared with the northern and southcentral regions. This variability possibly reflects differences in living conditions including hygiene, sanitation, malnutrition, and health education. Colder winter temperatures in the north are commonly associated with more upper respiratory infections. As with most infectious diseases there is a strong relationship between otitis media and poor living conditions which has been previously documented.[8,9]

Although the majority of our Southeast Alaska statistics are compiled from larger school districts including Juneau, Ketchikan, and Sitka, it is evident that the high risk areas for hearing loss are for the most part the native villages. This evidence has been shown in all Alaskan studies relating to ear disease and hearing loss. One statistic warranting further examination is the 11.4 per cent of hearing loss prevalence in Mt. Edgecumbe High School. This statistic would not be unusual in comparison with the rest of Southeast Alaska except for two factors. First of all, Mt. Edgecumbe High is a Bureau of Indian Affairs Boarding School with approximately 60 percent of the student body being Eskimo, and the other 40 per cent Indian and Aleut. Most of these students come from small rural villages where no high school facilities exist. The second factor is that the 11.4 per cent figure would be considered high in elementary grades, but a high school incidence this high is over five times the incidence rate of 1-2 per cent found in other high school studies.

SUMMARY

Hearing loss prevalence statistics for Southeast Alaska have been developed for this study and compared with available statistics in northern areas of Alaska. This study was compiled on 5,461 students (43.2 per cent of total Southeast school population) and reflects a 6.81 per cent prevalence of hearing loss, for the most part of a mild-moderate conductive nature. An additional 0.9 per cent had a high frequency hearing loss only, which is characteristic of noise exposure. The statistics in southeastern Alaska as well as the northern areas of the state indicate the high risk areas for hearing loss to be the small rural villages. □

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TRAINING DENTAL ASSISTANTS IN ALASKA

Arthur C. Willman, B.S., M.S.

In order to provide a sufficient number of skilled and trained dental assistants to meet the needs of the dental health system in Alaska, a Dental Assistant Training Program has been operated at the PHS Alaska Native Hospital, Mt. Edgecumbe, Alaska. Although this program has been operated for the specific purpose of training dental assistants for the Indian Health Service of the U. S. Public Health Service, there is no requirement for the graduate to join the IHS staff after completion of the one-year training program. In the past, the program awarded a certificate to students who successfully completed the course requirements. Although this certificate fully qualified the graduate as a chairside assistant, the faculty and administration became aware of a need for broader and more substantial recognition for the academic and technical training being offered — especially in light of the expanding professional role of the dental assistant.

To resolve this deficiency, an agreement was negotiated between the IHS program officials, and the administration of the Sheldon Jackson College in Sitka, Alaska for joint operation of the training program. Through this arrangement, the students are granted college credit for their course work. The college provides academic instruction, and the hospital staff provides technical instruction and additional academic instruction. As a result, the students receive 32 college credits for work which previously received little or no academic recognition. The credits can form the basis for advanced work toward an associate or baccalaureate degree.

The course of instruction consists of three primary areas:

(a) basic college academics
(b) basic dental assisting
(c) advanced "expanded functions."

All of the students are instructed in the required freshman academic courses in English, psychology, typing, and office management. This portion of the curriculum is provided through the regular college classes and instructors.

Basic dental assisting is taught at the hospital in the dental classrooms, laboratory, and outpatient dental clinic. A full-time instructor on the hospital staff provides a theoretical background and introduction to basic modern dental techniques. Shortly after the start of the first semester, the students are introduced to the techniques of chairside assisting both in a separate laboratory setting and in the dental clinic. Under the guidance of the clinic staff of dentists and trained assistants, the students receive a thorough exposure to practical techniques of "four-handed dentistry," dental examinations, care and handling of equipment and materials, X-ray procedures, prophylaxis and fluoride treatments, and dental health instruction of patients and parents.

Successful completion of the first semester's work is recognized in a "capping" ceremony which officially recognizes the student as a trained dental assistant capable of performing the basic and routine duties required in the practice of the profession.

Because of the rapid advances being made in dentistry, the students are trained in "expanded functions" during the second semester. The functions are essentially comprised of those techniques and procedures which have been traditionally performed only by the dentist but can be performed by a trained assistant. An example of this type of function occurs in a routine amalgam filling. The dentist examines the tooth, makes his diagnosis, and develops his treatment plan. With the aid of his assistant, he prepares the tooth for filling. The dental assistant then prepares the amalgam and inserts the material, thus freeing the dentist to perform other professional duties. After the material is in place, the dentist performs the final examination to assure that the filling is adequate and proper. The dental assistant then provides the patient with instructions in proper oral hygiene techni-

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ques.

This use of trained ancillary personnel is being recognized by the American Dental Association, and a policy statement will probably be issued in the near future. At the present time, these functions are not recognized under most state laws but Federal installations have not been completely restricted.

After two semesters of study and instruction, the students are recognized at the college graduation exercises. Eight of the 10 students who completed the course in May 1973 have been employed in Alaska. All of the 10 students were sponsored through the Employment Assistance Program of the Bureau of Indian Affairs.

The unique feature of this program is the close cooperation of Federal agencies and a private college in the development and operation of a training program. The course is designed to reduce the health manpower shortage in Alaska while at the same time providing a career opportunity which gives the student an immediately marketable skill and a solid foundation for advanced academic pursuits.

SUMMARY

A unique joint program to train dental assistants for Alaska has been developed. The students are given college credit for traditional college work and technical instruction in dental techniques. A feature of the program is the instructing of the students to assume certain functions previously performed only by dentists. □

CIRCUMPOLAR HEALTH CONFERENCE

The Third International Symposium on Circumpolar Health will be held in Yellowknife, N.W.T. from July 8 through 11, 1974. Previous Conferences, in Fairbanks in 1967 and in Oulu, Finland in 1971, attracted participants from throughout the Arctic and Sub-Arctic regions. The Yellowknife Conference, under the general direction of Otto Schaefer, M.D., of Edmonton, Alberta, promises to be a very stimulating meeting, with over 160 papers submitted by health workers representing the United States, Canada, Finland, Denmark, Sweden, and Japan. In addition to the scientific program, post conference tours are available Coppermine, N.W.T., Inuvik, N.W.T., and the Charles Camsell Hospital at Edmonton.

A Registration fee of $20 is payable to the Canadian office prior to May 31, 1974. If sufficient interest warrants, a charter flight from Anchorage or Fairbanks may be arranged. For further information on the Program or travel arrangements, please contact:

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An Allegory for Today

IN SEARCH OF A NEW BOTTOM PAINT

Luther L. Paine, B.A., D.D.S.

Once upon a time there was at the mouth of a large body of water a shipyard. The shipwrights there were highly trained and dedicated men who overhauled and rebuilt deep-draft, heavy-keeled ships. These vessels carried a variety of cargo and were based primarily in the United States.

Over the years, the one-person-one-ship tradition of the shipwrights gave way to the practice of several people working together on each ship; the shipwright acting as master planner and rebuilder, and his helpers fulfilling those tasks which were delegated to them.

This proved to be a remarkably good arrangement. It allowed the ships to spend less time on the ways, it allowed the shipwrights to spend their time at tasks of design and fabrication, which only they were qualified to perform, and it also provided employment to many who would otherwise undoubtedly never have known the trials and joys of a shipyard, had this unique arrangement not been conceived and carried out.

The shipwrights and helpers were highly regarded for their skills and leadership throughout the world. Great numbers of ships were able to be carefully and thoroughly refitted and renewed by the able hands of the shipyard teams.

Two problems continuously plagued these men — dry-rot and barnacles. Chemicals had effectively been used for some time to prevent dry-rot, a problem which still existed, but to a very negligible extent in those vessels whose owners took the simple precaution to have their hulls checked each year. And of course new vessels had their timbers chemically protected before they ever touched the water.

In addition, a new caulking sealant came on the market which was easily applied, and was used in progressive shipyards to seal up the planking and virtually eliminate the old problem of dry-rot where it most frequently began — in the grooves, imperfections and seams of the chemically protected wood.

However, despite the most careful efforts of the shipwrights, their assistants and other key personnel, the age-old problem of barnacles persisted. Every ship that settled in the ways, groaning and creaking, was plagued with the accretions of these "wee beasties." Graceful sailing ships, large freighters and tiny dinghies all suffered the same affliction. Furthermore, there were vessels all around the world whose owners were unaware of the problem; unaware that their engines had to work harder to maintain their original clean-hull speeds, unaware that permanent and irreversible damage was occurring to their hulls and engines from the ubiquitous barnacle. A shiny, impressive superstructure was always the owners' prideful obsession — what didn't show didn't matter.

An outstanding engine designer, D. D. Cod, from a neighboring machine shop, one day took it upon himself to look into this problem. He was familiar with the universal plight of the vessels and of the frustration of the shipwrights. And having just solved one of the major maladies of engines, he was ready to take on a new project.

He knew well the unending struggle of the handful of bottomscrapers and shipwrights over at the shipyard, who fought the endless barnacle battle. Eighty per cent of the hull was above the water, and easily maintained by the owner and deck hands, but the twenty per cent below water was causing eighty per cent of the problems of the ship.

While studying this problem in his machine shop one afternoon, D. D. Cod reasoned that if a long length of heavy hawser were to be stretched from waterline to waterline under the hull, and then pulled the full length of the keel, the newly attached barnacles could be dislodged with little effort. He arranged for this to be tried and found that it could indeed be done quite easily

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and effectively. He further found that by doing this once daily, the barnacle scourge could be totally eliminated! He then decided to write up this highly useful and innovative technique so that a solution to the widespread boat-bottom problem could be realized. Unfortunately, he wrote his article in an engineering publication and it did not attract the attention of the shipwrights.

By and by some shipwrights happened upon Cod's article and thought it might have merit. They tried the technique, and to their amazement it worked just as described — unbelievably simple and unbelievably effective. They became confirmed hawser-whippers.

The shipwrights spread the word among the shipyards, wrote articles themselves, gave demonstrations — they were convinced. Some shipwrights became avid users of the technique. Some had the barnacle-scrapers (b-s'ers) added to their armamentarium. But, surprisingly, though boat bottoms were clearly "their baby," very few b-s'ers became active hawser-whippers. Some of the shipwrights, who paid the scrapers by the pound, yet rarely checked the job, or conferred with the shipmasters regarding such tedia, felt that perhaps a different sort of person should shoulder the new responsibilities of hawser-whipping, and should show the shipmaster how simply he could hawser-whip his ship.

This new apprentice was thought to require different skills from those of the highly paid and specialized barnacle scrapers. Many shipwrights put on new apprentices, or gave the additional duty of shipmaster education to an existing hand.

The new technique was rather widely implemented with almost as wide a variety of efficacy. Some shipwrights said it probably would work, but they were too busy already without another new service to offer. Others said their barnacle scrapers were already too busy, and they just couldn't bother putting on and training another apprentice for anything like hawser-whipping. (Of course, some of them had boats of their own whose bottoms were a little mossy.) Some of the barnacle scrapers began to feel a little insecure, because they had visions of their jobs disappearing, or worse, their area of responsibility being delegated to some lesser skilled (and lower paid) apprentice, with a concomitant decimation of their trade.

Fortunately, there were enough shipwrights who felt that the prevention of such a chronic problem was their obligation to carry out for their shipowners, once it became clear just how easily and effectively it could be done. They took it upon themselves to acquire the new skills needed to motivate and convince the vessel owners in their yards of the importance of this service, they encouraged the barnacle scrapers to learn these techniques as well. These b-s'ers really became "turned-on," they found that showing owners the value and technique of hawser-whipping, and associated preventive skills and techniques was not a threat, but a real challenge, and an interesting and rewarding job. They worked with apprentices in the shipyards, as well as boat-builders and designers throughout their communities, in a great and continuing effort to whip this very real problem.

It was also found that the problems of dry-rot were decreased by keeping the hulls scraped every twenty-four hours. In addition, the turned-on b-s'ers were encouraged by their employers to learn to apply and replace the new caulk sealants, and chemical solutions to prevent dry-rot. Their work and therefore their lives took on new meaning and fulfillment. For who in his right mind would want to just scrape barnacles all his life?

The greatest irony of all, however, was the response of the group composed of D. D. Cod's confreres. Only a handful had any inkling of the magnitude of Cod's work. And even fewer ever tried, much less became convinced of the need, or acted on that conviction in terms of their own hulls. Most engineers had well-timed engines in their boats, and had salvaged and realigned countless engines for others (who were extremely grateful and admiring of the talented engineers). They did miraculous things in the big new and costly machine shops which were being built and equipped to serve virtually any mechanical need. But the boats owned by the engineers themselves were generally heavily encrusted with barnacles and moss.

Greater and ever greater feats are being accomplished in the machine shops and in the ways of the shipyards. But until a bottom paint is found to totally and simply eradicate the problem of barnacles and moss, the struggle must continue. □

PRESIDENT'S PAGE

Annual Meeting

The immense geographical size of Alaska with its diversity of population groups and professional talents produces an importance for an annual meeting disproportionate to that of other states. It not only provides an opportunity to participate in a scientific program and to conduct the business of the organization, but also to consider issues of local and national importance. The Health Congress concept, while criticized by many for tending to dilute the identity of the participating organizations, contributes an opportunity to interact with nurses, physical therapists, pharmacists and other professionals as individuals and as organizations in defining areas of mutual concern.

The process of proposing and adopting resolutions is of great importance and should not be taken lightly. Resolutions may originate from committees, from local societies, or be proposed by individual members. They may be directed to the association as a mandate for future action or as a shift in direction and policy. They may be a statement of opinion directed toward the American Medical Association and the general community of U. S. physicians. More importantly, they are frequently an expression of our group opinion directed to the general public. Occasionally, resolutions are a request for legislative action and intervention. There are several broad areas that now and in the future deserve attention and consideration by the Alaska State Medical Association and other members of this Health Congress, and that may be the basis for resolutions.

HEALTH VS. ILLNESS: Perhaps some of the confusion and public frustration over the apparent lack of interest by physicians in "health," either individually or as an organization, could be clarified by reaffirming that the primary interest of the vast majority of physicians is in illness and disease as it affects patients as individuals, and to a lesser extent, with disease as it relates to specific population groups. It is currently popular and very much in vogue to consider that disease detection in the asymptomatic patient is synonomous with health or "health maintenance." Unfortunately, very little effort has been directed toward informing the public of the relatively small number of procedures that enjoy this validity. Nor has much been said or written regarding the cost of indiscriminate disease screening, presented in the guise of "health maintenance," in terms of the results obtained as related to curable disease. Much of the criticism and public frustration directed towards physicians because of their apparent lack of interest could possibly be alleviated by defining and stating concisely the physician's primary concern with the management of disease or illness. When health is defined as the absence of disease and the presence of well-being, it is seen to encompass many aspects of the environment and our daily lives that are not the domain of medicine. No federal agency, state, labor union, or private insurance company sells "health insurance." These plans are prepared to pay partially and somewhat reluctantly for illness and for a few rigidly defined disease protection procedures. It may be well to insist that insurance and prepaid plans are labeled as "illness insurance" to emphasize that no company or even the federal government can be so financially irresponsible as to presume to provide health maintenance or health insurance.

CONSUMERISM: The rights of the consumer have captivated the interest of a large portion of the population, including physicians, except when it affects their role as a provider. A legitimate concern of consumers and their power as a group is the availability of medical care for those that are ill. This issue, which should be of joint concern to physicians as providers and the public as consumers, is becoming distorted by a poor choice of language. Of more concern is not quality of care but rather adequacy. Judgments regarding the adequacy of medical care have a different connotation and realism from those concerned with quality, which tend to minimize the circumstances and persons involved. The consumer as a group, no matter how cumbersome, can be an ally of the provider in alleviating this distortion.

PLANNING: The fact that Comprehensive Health Planning Agencies have never achieved any significant viability during their seven or eight years of existence should not be of particular surprise. Effective planning, whether it be as individuals in establishing goals and means of obtaining them, or as groups or corporations or clinics, is proportional to the knowledge of the planners. Devotion and dedication to the process is directly related to the risk of penalty of not planning. As individuals, the members of "a" and "b" Health Planning Agencies are several steps removed from the consequences of adequate planning and are in such a poor position to know and understand the facts and innuendos that influence a provider, that the only legitimate function they can provide is that of review and comment. This role, if it is fully appreciated and embraced, is as important in the health field as test-marketing is to the manufacturer. Most providers whose entire daily function is concerned with the delivery of medical care can barely keep up with the rapidity of technical and factual advances. What is today's new and innovative service becomes routine and expected tomorrow at a rate that is barely comprehensible to consumers and professional planners who do not enjoy this same intimacy. Since medicine is dedicated to the relief of pain and suffering, perhaps it would be appropriate to hasten the demise of the CHP anachronism for anything but review and comment.

REGULATING: Somewhere back in the beginning, which requires insight and a willingness to investigate that is beyond the capacity of most, there is usually a problem or a fault that a regulation is carefully and thoughtfully promulgated to correct. From that point forward, it develops a life of its own, reproducing in a futile effort to define itself, eliminate contradictions, correct mistakes, cover contingencies, and to anticipate and insure its continued viability, whether it be appropriate or not. The problem becomes compounded when each regulation and amendment provides employment to writers and enforcers. The natural history of the regulation proceeds from its original effectiveness, to its manipulation by those regulated, to its ultimate collapse when the number of regulators exceeds the productivity of those regulated. At this point, regulations become counter-productive and stifling in their cumbersomeness. Since most regulators are not recipients of the Medicare or Medicaid programs, we can only anticipate with a certain malevolent glee the effect of a national "health insurance" with its attending volumes of rules and regulations on these unsuspecting benefactors of their own folly. The only alternative to the result predicted in "Atlas Shrugged" is for physicians to encourage and facilitate a response to the government when their patients become the victims rather than the beneficiaries of the system.

PROVIDERS AND PROVIDING: In this area, the United States is also currently embroiled in a gigantic semantic hoax. Long before Florence carried her magic lantern, physicians have had their assistants. From the Middle-English and old French languages, the title nurse evolved for this person whose role has been adapted and modified to become compatible with its long heritage. The team of nurse and physician is deeply and firmly rooted and the relationship has been mutually satisfactory. The idea and function of a dietician, a physical therapist, an occupational therapist, have slowly and carefully evolved as independent roles from that originally provided by the nurse. These various disciplines provide a function that is easily recognized and mutually respected. The legislative superimposition of a "Physician's Assistant" has threatened this careful evolution and created a destructive unrest that is of legitimate concern to those who have thoughtfully chosen and pursued an historically sanctioned role in the medical care delivery system.

The physician's assistant movement has resulted and will result in a destructive influence through the creation of a chaos of defense mechanisms, including but not limited to an effort to define roles statutorily and needlessly license and somehow magically sanctify providers. As a group, physicians are woefully unaware and unconcerned with the turmoil that this movement has generated, and its potential for far-reaching and disastrous consequences.

Beyond a certain base line, the number of patients and medical services they require has a minimal effect on the cost of medical care. Cost becomes more directly related to the number of providers that must benefit from a finite amount of illness. It is a paradox of our time that government, while expressing concern for the cost of medical care, should attempt to superimpose a legislatively conceived, poorly defined provider called a "physician's assistant" in an effort to respond to a presumed manpower shortage, a presumption from which it is currently ungracefully and awkwardly withdrawing. To have allowed ourselves to presume that the value of the "services" provided by a P. A. are equivalent to that of a physician and significantly more than those of a nurse, has produced a situation that has become financially sanctioned by a minority and thus will be enormously difficult to rectify.

The medical delivery system will always produce those who are envious of a physician-patient relationship, and because of their own inadequate roles or personalities, will attempt to defile it and become opportunists and charlatans. This is a well recognized by-product, but to be the victim of a manpower crisis that may be more imagined than real and the subsequent legislative efforts for instant solution is another thing, and deserves the response not only by physicians but by those who have been traditionally considered physicians' assistants.

The Alaska State Medical Association and the organizations participating in the Health Congress, must address themselves to these issues and adopt carefully considered resolutions and opinions which will shape the direction and acceptance of medical care in this state as well as in the nation.

Glenn B. Crawford, M.D.

THIRD ALASKA HEALTH CONGRESS

General Sessions for all Participants

Wednesday, June 5

10:00 a.m. Opening Ceremonies — *Mid Deck*
Glenn Crawford, M.D., Moderator
President, Alaska State Medical Association
Honorable Gov. William A. Egan, Guest
Governor, State of Alaska
Dr. Storey Mustgraves, Guest Speaker
Physician Astronaut, N.A.S.A. Space Center, Houston, Texas

12:00 noon Lunch

7:00 p.m. Cocktails (no host) *Aft Deck*

8:00 p.m. Health Congress Banquet
Dr. Frederick McGinnis, Master of Ceremonies
Commissioner, Alaska Department of Health and Social Services
Honorable Governor William A. Egan, Guest

Thursday, June 6

10:00 a.m. Introduction of Speakers — *Mid Deck*
Glenn Crawford, M.D., Moderator
President, Alaska State Medical Association
Robert Hunter, M.D., Guest Speaker
Member, Board of Trustees, A.M.A.
Topic: "P.S.R.O.'s"
Ingeborg Mauksch, R.N., Ph.D., Guest Speaker
Associate Professor and Family Nurse Practitioner, University of Missouri, Columbia, Missouri
Topic: "The Partnership of Physician, Nurse and Other Health Professionals."

12:00 noon Lunch

Friday, June 7

10:00 a.m. Alaska Native Health Corporations — *Mid Deck*
Carl Jack, Moderator
Director, Health Affairs Division
Alaska Federation of Natives, Inc.

12:00 noon Lunch

The exhibits in the Fore Deck are open to all Health Congress participants at 12:00 noon. They are open to physicians only from 8:00 a.m. to 12:00 noon.

ALASKA STATE MEDICAL ASSOCIATION

29th Annual Convention

Tuesday, June 4

1:00 p.m. Meeting of the Council, Alaska State Medical Association *Resolution Room*

Wednesday, June 5

8:00 a.m. Business meeting, Alaska State Medical Association. Open to all members. *Easter Island Room*

10:00 a.m. Health Congress meeting — *Mid Deck*

Dr. Storey Musgraves (see Congress schedule)

12:15 p.m. Luncheon — *Easter Island Room*

George Hale, M.D., Moderator
Professional Education Chairman, Alaska Division, American Cancer Society

Harvey Baker, M.D., Professor of Surgery
University of Oregon Medical School

2:00 p.m. Clinical Session: "Infectious Disease" — *Easter Island Room*

Thomas C. Wood, M.D., Moderator

Jack S. Remington, M.D.,
Associate Professor of Medicine and Infectious Disease, Stanford University School of Medicine

7:00 p.m. Cocktails — *Aft Deck*

All participants and wives are invited.

8:00 p.m. Health Congress Banquet — *Mid Deck* (see Congress schedule)

All participants and wives are invited.

Thursday, June 6

8:00 a.m. Business meeting, Alaska State Medical Association

Open to all members. *Easter Island Room*

10:00 a.m. Health Congress meeting — *Mid Deck*

Robert Hunter, M.D.,
Ingeborg Mauksch, M.D. (see Congress schedule)

12:15 p.m. Luncheon — *Aft Deck* A.P.H.A. and A.S.M.A.

C. Earl Albrecht, M.D., Moderator

Robert Wainwright, M.D.
Medical Services Chief,
Bechtel Corporation
Topic: "Health and Medical Aspects of the Trans-Alaska Pipeline Project"

2:00 p.m. Clinical Session: "Recent Advances in Thyroid Disease and Diabetes"
Paul Worrell, M.D., Moderator
Jerry Little, M.D., Moderator
Robert Williams, M.D.,
Professor of Medicine,
University of Washington
School of Medicine
Jack Bagdale, M.D.,
Professor of Medicine,
University of Washington
School of Medicine

7:00 p.m. Cocktails — *Resolution Room*

American Academy of Family Practice

8:00 p.m. Annual Banquet — *Resolution Room*

American Academy of Family Practice

All members of the A.A.F.P. and wives are invited.

Friday, June 7

8:00 a.m. Business meeting, Alaska State Medical Association

Open to all members. *Easter Island Room*

10:00 a.m. Health Congress meeting (see Congress schedule)

Alaska Native Health Corporations

12:15 p.m. Luncheon — *Easter Island Room*

Annual meeting Alaska Political Action Committee

(All members of A.L.P.A.C. and A.M.P.A.C. are invited.)

Keith M. Brownsberger, M.D., President
W. J. Jack Lewis, M.D., Guest
President, American Medical Political Action Committee

2:00 p.m. Clinical Session: "Pediatric Endocrinology"
John C. Tower, M.D., Moderator
Robert M. Blizzard, M.D.
Chairman
Department of Pediatrics,
Johns Hopkins Hospital

6:30 p.m. Cocktails (no host) *Fore Deck*
All exhibitors and members of the Alaska State Medical Society are invited.

8:00 p.m. A.S.M.A. President's Banquet
All members of the Alaska State Medical Association and their wives are invited.

Saturday, June 8

9:00 a.m. A.S.M.A. Council meeting — *Resolution Room*

PHYSICIAN AVAILABLE

Young physician from Northwest is looking for group with whom to practice for 2 years prior to possible residency in Internal Medicine. Will finish internship 12-74. 1113 N. University, Fargo, ND 58102. Phone (701) 232-9576.

PHYSICIAN WANTED

Base physician for remote wilderness site of 600 persons. Complete medical facility. Includes room and board. Family housing nearby. Employer paid placement fee. Annual salary $35,000. Call or send resume (907) 277-8682. North Employment Agency, Inc., 440 W. 5th, Anchorage, AK 99501.

ADA SPECIAL COMMITTEE TO TOUR ALASKA

Dr. Robert Horchover, Delegate to the Convention, was successful in introducing and passing a resolution at the October 1973 meeting, which read:

Resolved, that the Board of Trustees of the American Dental Association appoint a committee to conduct a study and make recommendations to alleviate the problems involving the private dental sector and Public Health Service dentists in Alaska. The tentative itinerary for the committee's on-site evaluation in Alaska will be as follows:

May 29:	Arrive in Anchorage. Meet with Health Corporation and Health Board leaders. Meet with officers and committee members of the Alaska Dental Society.
May 30 & 31:	Field trip to Wade-Hampton and Aleutian Chain area.
June 1:	Fly to Juneau. Visits to Southeastern village such as Hoonah, Pelican and Angoon. Arrive in Sitka.
June 2:	Meet with Health Corporation leaders and members of Alaska Dental Society.
June 3:	On-site evaluation completed. Leave Sitka.

All members are urged to contact the Committee. Question them, advise them and make Alaska's situation clear, especially from the standpoint of private practice.

ALASKA DENTAL SOCIETY 1974 CONVENTION

Centennial Building, Sitka, Alaska

PROGRAM

Saturday, June 1

1:00- 6:00 PM	Registration Lobby of Centennial Building
2:00- 4:00 PM	Executive Committee Meeting — Matsoutoff Room
6:00- 8:00 PM	Dinner — No Host — Statens Restaurant
8:00- ???	Opening Session Annual Convention Speaker — Dr. Harold Kramer, Trustee, ADA Eleventh District

Sunday, June 2

8:00 AM	Continental Breakfast — Hospitality Room
8:00-10:00 AM	Committee Meetings — Davis Room, Pestouroff Room
10:00-12:00 N	Clinic — Dr. Mel Schwartz — Management of the Occlusion for the Periodontal Patient — Matsoutoff Room
12:00- 2:00 PM	Open lunch and exhibits
2:00- 5:00 PM	Clinic — Dr. Mel Schwartz — Management of the Occlusion for the Periodontal Patient Continued — Matsoutoff Room
6:00- ???	Booze Cruise to Gold Mine — Crescent Harbor

Monday, June 3

7:30- 9:00 AM	Continental Breakfast — Hospitality Room
9:00-12:00 N	Clinic — Dr. Mel Schwartz — Special Modifications of Restorative Dentistry for the Periodontal Patient — Matsoutoff Room
12:00- 2:00 PM	Past Presidents' Luncheon — Auditorium Speaker — Dr. Louis Terkla, Dean, University of Oregon Dental School
2:00- 4:00 PM	Business Meeting — Matsoutoff Room Alaska Dental Society Members
4:00- 6:00 PM	Table Clinics — Exhibits AGD Meeting Alaska State Society of Orthodontists Meeting
7:00- 8:00 PM	Cocktails — Centennial Building
8:00- ???	President's Banquet Speaker — Dr. L. Kennedy, President Elect, ADA Entertainment — New Archangel Dancers

Tuesday, June 4

8:00 AM	Continental Breakfast — Hospitality Room
8:00-11:00 AM	Business Meeting — Matsoutoff Room Alaska Dental Society Members
12:05 PM	Flight to Anchorage leaves.

SPECIAL ACTIVITIES PROGRAM

Saturday, June 1

1:00- 6:00 PM	Registration
6:00- 8:00 PM	Dinner — No Host — Statens Restaurant

Sunday, June 2

9:00-12:00 N	Sightseeing, Fishing
12:00- 4:00 PM	Ceremonial Tea and Flower Making — Japanese Round House

Monday, June 3

9:00-12:00 N	Silver Jewelry-making Demonstration — National Park Building at Totem Park
12:00- 2:00 PM	Past Presidents' Luncheon
2:00- 4:00 PM	Sightseeing, Fishing
4:00- 6:00 PM	Table Clinics and Exhibits
7:00- 8:00 PM	Cocktails — Centennial Building
8:00- ???	President's Banquet

Tuesday, June 4

9:00-12:00 N	Sightseeing, Fishing

AIRLINE INFORMATION

A plane charter from Anchorage may be available for 40 or more persons.

Alaska Airlines round-trip Anchorage — Sitka:

Coach	- $145.27
First Class	- 187.27
Group Rate	- 101.27/person for 40 and over over

Contact: Margaret Hyry
- Wk. 279-6517, Hm. 279-8896

Constance Means
- Wk. 277-4537, Hm. 333-8160

Now	Leaves Anchorage	8:45 AM
	Arrives Sitka	12:45 PM
	Leaves Sitka	12:05 PM
	Arrives Anchorage	12:45 PM

COMMISSIONER'S PAGE

Frederick McGinnis
Commissioner
Department of Health and Social Services

There are six major health insurance proposals in the federal hopper and a brief synopsis of the major three is:

(1) The Kennedy-Griffiths or CH NI Bill (S. 3 and HR 22)

This bill is entitled "The Health Security Act" and was developed by the Committee on National Health Insurance (CH NI), comprising one hundred prominent Americans who represent "a cross-section of our entire society." CH NI is actively engaged in education programs in support of health security.

The Health Security Act would pay for almost the entire range of personal health care services through a Trust Fund to be administered by HEW. It would be funded 50% by federal general taxation and 50% by additional social security taxes.

This particular health insurance plan is unique in that it is wholly prepaid. There are no deductions, no co-payments, and no means test.

Should health benefits become available under this plan, some current federally financed or supported programs such as Medicare, Medicaid, CHAMPUS and others would be terminated or modified.

(2) The Long-Ribicoff Proposal (S. 2513)

This proposal was introduced on October 2, 1973 and is entitled: "Catastrophic Health Insurance and Medical Assistance Reform Act of 1973."

The proposal has three parts: (1) catastrophic insurance coverage for virtually all Americans; (2) an "entirely new basic health benefits program" to replace and extend Medicaid for low income individuals and families; and (3) a "new and voluntary federal certification program for private health insurance policies," including incentives. The third part is based on the assumption that with government accepting responsibility for the highest risk, i.e., Parts 1 and 2, the voluntary insurance industry could reasonably be expected to provide adequate basic health insurance for the remainder of the population.

Frederick McGinnis

Catastrophic coverage would include all persons in the Social Security system and their dependents, plus low-income persons covered by Part 2, and others. It would be administered by the Social Security Administration and financed by a 0.3% increase in the social security tax on employees and employers. Catastrophic coverage would begin after a family had expended $2,000 in non-hospital medical costs or had paid for 60 days for an individual member.

(3) The Administration's Plan

This program is called the "Comprehensive Health Insurance Plan" or "CHIP." It would build upon the present system of private health insurance companies and the Federal Medicare Program, while largely eliminating the Medicaid Program.

Medical coverage for low income people and those considered high medical risks would be supplied by private insurance companies under contract with state governments. The premiums would be paid in part from federal and state tax money with covered individuals paying as they are able to and the federal and state government picking up the remaining tab.

The only portions of the present Medicaid Program which would remain would be certain long term care in nursing homes and mental institutions, and certain home health services.

An expanded Medicare Program would provide for the elderly.

The largest part of the Nixon program would require mandatory health coverage for nearly everyone who holds a job. The insurance would be supplied by private companies, but the employees would be required to pay most of the premiums. The workers would pay 35% of the cost for the first three years and 25% thereafter.

(4) "The National Health Care Act of 1973"

Proposed by the Health Insurance Association of America and sponsored by Senator McIntyre (S. 1100) and Congressman Burborn (HR 4200).

(5) "The Health Care Insurance Act of 1973"

Also known as "Medicredit," proposed by the AMA and sponsored by Senator Hartke (S. 444) and Congressman Fulton (HR 2222).

(6) "National Health Care Services and Reorganization & Financing Act"

Proposed by the American Hospital Association and sponsored by Congressman Ullman (HR 1).

The American Public Health Association said recently: "Most Americans do not have adequate health care; they have crisis care. They obtain health services only when sickness or injury forces them to muster the money and risk the obstacles and humiliations."

National health insurance is an idea whose time has come in America and the rising medical costs should no longer be a deterrent to good health and the destruction of our human resources by diseases and the finality of death.

It is hoped that Congress in all its wisdom will seek out the very best comprehensive health insurance coverage for all Americans at both ends of the financial ruler.

Letter to the Editor

April 16, 1974

Editor
Alaska Medicine

I am sure I am only one of many who will point out to you the significant omission in the article "A Clinical Guide to Drug Usage During Pregnancy," in the March 1974 issue of *Alaska Medicine*. I refer to the comments on page 40 regarding diethylstilbestrol. Not only is masculinization not a likely result from using this estrogen, but as every Obstetrician-Gynecologist and interested Generalist and Internist should know by now, there has been vaginal adenosis and occasional cases of clear cell adenocarcinoma of the vagina in female offspring of mothers who took diethylstilbestrol and other non-steroidal estrogens during the pregnancy that produced the girl with the vaginal abnormality.

I think that this is an important enough omission that a follow-up should be printed in a subsequent issue of the journal.

Joseph A. Worrall, Jr., M.D.
Obstetrician-Gynecologist
Fairbanks Medical & Surgical Clinic, Inc.

NORTHERN HIGHLIGHTS - 12

SELECTED ABSTRACTS ON MEDICINE AND PUBLIC HEALTH IN THE NORTH

A Look at Canada's Indians

Robinson, G. C.; Evans, R. G.

A survey of pediatric hospital utilization by Indian children in British Columbia. *Canad. J. Public Health 64:* 154-160, 1973.

This paper reports a survey of 23 British Columbia hospitals to determine the impact of the hospitalization of Indian children on general hospital utilization rates. The authors are with the Department of Pediatrics and the Department of Economics at the University of British Columbia.

The research team selected for study 23 hospitals and their corresponding school districts which serve a significant Indian population. The districts contain 18% of the total B. C. school children but 65% of the Indian children. The Indian pediatric cases from these districts account for 27% of all pediatric cases and 33% of hospital days in the Province. Within the districts, Indian children account for 9% of the pediatric population but 28% of cases and 42% of hospital days.

It was found that in the 0-1 age group the percentage of Indian cases and days was twice that of the non-Indian group. Indian medical cases exceeded surgical cases by a wide margin and the ratio of medical to surgical patient days was almost 10 to 1, compared with a non-Indian ratio of 2 to 1. Both medical and surgical Indian patients stay an average of 3-4 days longer than non-Indians. Indian children used more days for infective and parasitic diseases, diseases of the nervous system and sense organs, respiratory system and skin. The incidence rates for pediatric cases and days were higher in all 23 districts than those of the Province generally or the Greater Vancouver area, due largely to the high Indian case load. The higher utilization by Indians in 1970 would fill a 182-bed hospital.

These findings are important with respect to projecting the need for future hospital beds in the Province, and with respect to the actual and potential problems of long and frequent hospitalization of children.

As socioeconomic conditions, education and transportation patterns for Indians improve, it is anticipated that the heavy demand for hospital beds will decline. An immediate but partial solution would be a greater use of foster homes or group after care homes.

Blouw, R.; Petrinka, A.; Hildes, J. A.

Health of Indians on the Hudson's Bay Railway *Canad. J. Public Health 64:* 58-64, 1973.

This paper reports on a 1971 health survey of the Cree Indians living in 4 communities along the Hudson Bay Railway between Gillam and Churchill, Manitoba. The principal author is a University of Manitoba medical student, who was assisted by the staff of the Northern Health Unit at Churchill and the University.

The population consists of 130 persons in 22 families, of whom 113, or 87%, were seen. All but one are Cree Indians or Cree-Metis, most with treaty rights. They came to the railroad in the 1920's to work on construction and most family heads are still employed by the railroad as maintenance men.

For each individual and family a form was completed showing immunization status, tuberculosis status, major illnesses, hospitalizations, reproductive history, current symptoms, housing, water and sewage facilities, an assessment of health knowledge, educational levels, and what they do when they are ill. The records of nearby health facilities were also examined.

Most women were found to have little or no knowledge of birth control methods, the average parity being over 8. Of 171 live births recorded, 28 died in infancy, for an infant mortality of 164/1000 live births. Twenty more of these children died after infancy. About half of the infants were born in hospital and, curiously, these children had twice as many later hospitalizations for illness as those born at home. Of the 44 children under 10 years, only 17 had never been hospitalized. Most hospitalizations were caused by respiratory illness (43%), skin diseases (20%), and gastrointestinal diseases (20%).

Twenty-three persons, 18% of the total, either had had or currently had active tuberculosis. Dental hygiene and status were very poor. Except for those with smallpox vaccination scars, few had evidence of any immunization.

Socioeconomic levels were very poor. Thirty of 48 adults had no formal education at all. Housing was very poor, with no electricity (and hence no refrigeration) and absolutely primitive sewage facilities. Water is brought in weekly from Churchill in tank cars in summer and is obtained from river ice in winter.

In summary, the health conditions of these people are abysmally low, despite the relatively easy access to modern care by the railroad. A defect in the delivery system appears to be the cause.

McKinney, W. R.

The Sioux Lookout Medical Program *The Beaver.* Outfit 303:4, 1973, pp 52-27.

This paper describes the health delivery system now in operation for the Indians living in the Sioux Lookout Medical Zone, in Northern Ontario. The author is a pediatric resident at the Hospital for Sick Children, Toronto. He was assigned to the Sioux Lookout Program in September 1972.

The history of health services for the Indians of this region has not been a happy one. Until relatively recently, virtually all hospital beds available were filled with tuberculosis patients. The area served was large, with about 15,000 Cree and Ojibway Indians, many of whom live in scattered settlements without proper communication or transportation. In 1969, due to a critical shortage of physicians and nurses, the government asked the University of Toronto medical and dental schools for assistance in developing an effective health care system.

The University now recruits two or more physicians and one or more dentists annually for the project to assist the Project Director. In addition, residents in pediatrics, medicine, orthopedics, ophthalmology, and other specialties, as well as dental interns, rotate through the Sioux Lookout Hospital and some of the outlying communities.

There are seven nursing stations in the Zone, with 20 additional satellite communities. Each clinic is staffed by one or more nurses, who visit each satellite every other week. The outlying communities have community health aides who handle minor problems and report more serious conditions by radio. Also available are Indian Community Health Workers who are trained primarily in nutrition and sanitation. Physicians from Sioux Lookout visit the nursing stations several times a month to see difficult medical cases.

The philosophy of the Project Director is to involve the Indian people to a greater extent in the planning and control of their health services. An advisory board is being formed for this purpose.

Campbell, I. G.

Miliary tuberculosis in British Columbia *Canad. Med. Assoc. J. 108:* 1517-1526, 1973.

This paper reviews the case records of 48 cases of miliary tuberculosis registered in British Columbia between 1967 and 1971. Fourteen of the total (34.2%) were in Indians, who account for only 2.3% of the population of the Province. The author is a Medical Resident at the Vancouver General Hospital.

The series of cases included all those for whom a clinical or autopsy diagnosis was reported to the Division of Tuberculosis Control over the 5-year period.

Two main categories were apparent: the first, a group of 30 patients diagnosed and treated during life and the second a group of 18 first identified at autopsy. In the latter group, all but one were over 50, whereas in the diagnosed group all age groups were represented. Half of the Indians with the disease were less than 30. Over 80% of the autopsy-diagnosed group were Caucasians, whereas 43% of the diagnosed and treated group were Indians.

The commonest symptoms included malaise and weakness (67%), cough (62%), and sputum production (40%). The most frequent physical findings were fever (76%), and crepitations (54%). Six patients presented as a fever of undetermined origin, 4 of them in the autopsy group. Concomitant disease was present in 23 patients. Of the treated group, positive cultures were obtained in 85%. All but two of the 30 patients had a characteristic chest x-ray. Of 30 patients with a tuberculin test, 24 (80%) were positive.

The Indian patients had a high disease rate but a low mortality compared with the Caucasians. The lower death rate was probably attributable to the younger age group at which the disease occurred and the more obvious clinical presentation at this age.

Jellard, C. H.

Diphtheria infection in North West Canada, 1969, 1970 and 1971 *J. Hygiene Camb. 70:* 503-510, 1972.

This report analyzes 1238 positive cultures of *Corynebacterium diphtheriae* from the population of northern Alberta and the Arctic Coastal districts of the Northwest Territories. The author is with the Provincial Laboratory of Public Health, Edmonton, Alberta.

The 1238 persons with a positive culture for *C. diphtheriae* included 820 Indians or Metis, 318 Caucasians, 97 Eskimos, and 3 Asiatic Indians. The cultures were unselected and taken by doctors and nurses for public health purposes. All positives were tested for toxigenicity. No relationship was found between the site and the type or toxigenicity of the infecting strain. In a small subsample, the incidence of diphtheria positive swabs was 60 times greater in Native than in white persons.

The highest incidence of positive isolations was in the first year of life. Of a sample of 208 infected Indian children aged 1-12 years, 160 (77%) had had a primary series of three inoculations, with or without a booster, within 7 years, 19 others were inadequately immunized and only 29 were unimmunized.

There were 27 cases of toxic respiratory diphtheria represented, 25 of whom were whites. On the other hand only 27/242 persons with positive skin lesions were white, although none showed toxic effects. Of the 242 lesions of the skin, 95% were associated with hemolytic streptococcal infection and 86.3% with *Staphylococcus aureus*. Lesions were generally superficial.

A total of 303 ear swabs were positive for *C. diphtheriae;* of these only 14 were in white persons. Of the positive cases nearly half were in children under 2. None had toxic symptoms.

It appeared that diphtheritic infection is endemic in the Native populations of North West Canada and that the disease is generally mild and non-toxic. Respiratory toxic diphtheria is seen primarily in whites. It is suggested that in the Native population, poor hygienic conditions lead to widespread infection and immunity and that artificial immunity is of minor importance for this group.

Eaton, R. D. P.; Scott, F.; Meerovitch, E.

Amebiasis: A ten-year review of clinical and epidemiological progress in the Saskatchewan endemic area. *Canad. J. Public Health 64:* Monograph Supplement 47-51, Oct. 1973.

Disease caused by *Entamoeba histolytica* has been endemic in the Indians of northern Saskatchewan for the past 10 years. This paper summarizes the current status of this significant problem. The principal author is with the Northern Medical Research Unit, DNHW, at the Charles Camsell Hospital in Edmonton, Alberta.

Information on amebiasis has been derived from case reports, followups of indicator cases, a continuing survey of hospital admissions for facilities serving Indians, and a series of spot surveys in high risk communities.

In general, there has been observed a gradual expansion of affected areas along traceable routes, although the numbers of cases have not appreciably increased. The maximal incidence was reached in 1969, with 53 cases in a 12-month period; since that time a gradual decline has been observed.

Clinically, 46.5% of 338 hospitalized patients have been less than ten years old. Liver abscess has been diagnosed in 27, or 8% of all cases, all but one being in adults. Eleven deaths have been recorded, an overall case fatality rate of 3.24%.

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It is of interest to note that the number of non-Indians affected has been very small, despite the close proximity of housing in many areas.

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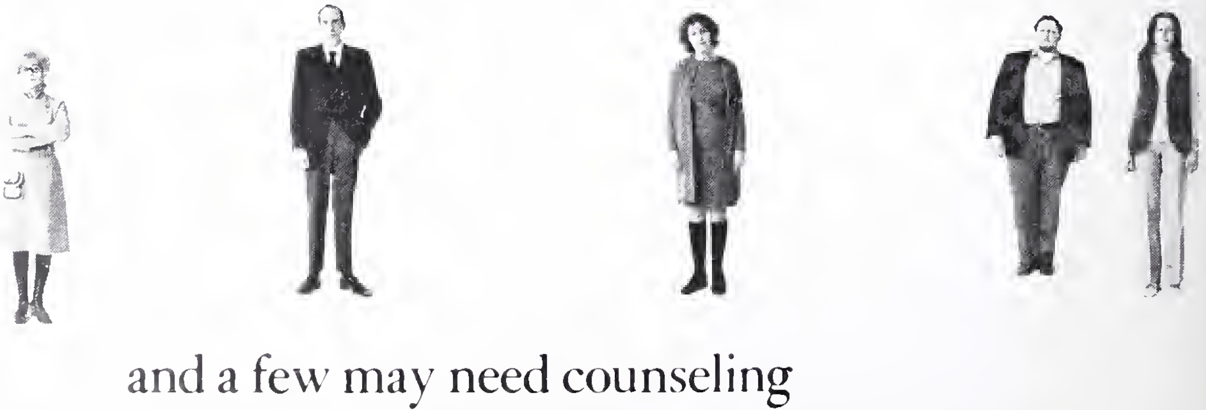

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COVER

Water color Artist Sam McClain, a 27 year resident, restores Alaska's disappearing historical land marks with color and brushes. McClain is credited for the restoration of seventy Russian Orthodox Churches for a private collection, the first of its kind in Alaska. The Russian Orthodox Church on the front cover is at St. Michael's, Alaska.

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item:	*But,* among women who received personal instruction from their physicians, the overwhelming majority *(92%)* practiced BSE during the preceding year.

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HOSPITAL USE IN ALASKA

Samuel B. Webb, Jr., Dr. P.H.[*]
John D. Thompson, M.S.,R.N.[**]
David A. Pearson, Ph.D.[***]

INTRODUCTION

In order to determine what the role and/or mission of any institution or agency should be, it is important to have knowledge concerning its present utilization. Only in this way can appropriate goals be determined or redefined on the basis of need determined through existing felt demand. As the costs of medical care, particularly the use of inpatient hospital services, continue to escalate, it is no wonder that hospital beds and their use have become a concern to both providers and consumers of this resource. Some debate that the construction of beds should be governed solely by the forces of supply and demand. Others claim that such resources are "community" vis-a-vis "private" property and should be regulated by some means other than laissez-faire economics. These latter proponents claim that decisions regarding construction and/or use of hospital beds should not be solely left up to the legal owners, as in the long run the people of a community actually must pay for a hospital bed not just the occupant, since the more beds a community has and does not use, the higher the price they must pay. When a bed is unused the capital costs (depreciation, interest, debt service, etc.) must still be paid. Similarly, the operating cost of an unused bed (particularly housekeeping costs) must be covered. Because close to 70 percent of hospital costs are fixed and presently borne by third-party payers (Blue Cross, commercial health insurance, the government, etc.) and self pay patients, if a bed is unused the capital and operating costs of that bed are borne primarily by the third-party payers. Typically, all the individuals in a community covered by hospital insurance pay this bill through their insurance premiums. Unused beds will increase costs and in turn premiums will have to be increased, with the result that the "community" ends up paying the costs through increased premiums. Where federal funds are concerned, this argument of the "community" resource proponents has clearly won the debate, as Comprehensive Health Planning "b" agencies must approve new construction where federal monies are concerned.

In a state with limited population centers, it becomes particularly important to know how hospital resources are being used, for often planning for optimum use and financing must include a much larger population than a limited local service area. Not only is this true for

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This study was supported by the Borough Mayor's Office, Greater Anchorage Area Borough.

The authors wish to extend their appreciation and gratitude to the Alaska State Hospital Association, particularly the Executive Director, Ms. Marion Lampman; The Alaska State Medical Association; and to all the practicing physicians and hospital administrators in Alaska. Without their encouragement and assistance, this study could not have been undertaken. Thanks also are due to Mr. Joseph Cannon and Ms. Natalie Tyler for their technical assistance in coding and programming the study data.

Alaska, and in particular for Anchorage, but the problems become more acute with the construction of the Trans-Alaska Oil Pipeline and resultant projected extensive pressure this may put on existing resources of many types, but particularly the scarce resource of hospital beds.

PURPOSE OF STUDY

The purpose of this study is to answer three key questions facing health resource planners in the Greater Anchorage Area Borough (G.A.A.B.):

1. To what extent do the two neighboring boroughs of the Kenai and Matanuska-Susitna use the hospital resources of the G.A.A.B.?
2. To what extent does the remainder of the State of Alaska use the hospital resources of the G.A.A.B.?
3. To what extent do physicians living and practicing in the G.A.A.B. provide hospital care in other Alaskan boroughs and regions?

Answers to these questions will help clarify the responsibility of those responsible for health (particularly hospital resources) planning in the G.A.A.B. (physicians and non-physicians). Such classification is important. However, in order to separate the role of the Anchorage hospitals in their own Borough from their role in the provision of inpatient services for the State of Alaska, one must first look at the hospitalization pattern for the entire state. It is not enough only to examine admissions to Anchorage hospitals according to the residence of each patient. Because of the disparity of the size of populations in various areas of Alaska, it may well be that admissions from one of these areas may account for a small fraction of the total admissions to the hospitals in Anchorage. That number, however, may represent a majority of all patients who were hospitalized from that area. Accordingly, should this be the case, the Anchorage hospitals would be serving as that area's hospital.

METHOD OF STUDY

The State of Alaska was divided into 29 geographic areas corresponding to census areas and 100 percent of all inpatient admissions to Alaskan hospitals for a consecutive three-month period (October, November, December, 1972) were gathered. Such an approach does have the limitations of not being able to account for Alaskan residents admitted to hospitals in the lower 48 states or in Canada and not taking into account seasonal variations. If these limitations are accepted (and we believe they would influence the results minimally), insight may be gained as to the pattern of hospitalization within the state.

Of the 21 hospitals examined — that is, 19 general hospitals, one psychiatric hospital and one extended care unit — only two of them were Federal hospitals — the Air Force Hospital in Anchorage and the Army Hospital in Fairbanks. Data were not obtained for the Alaska Native Health Service (ANHS) Hospital in Anchorage or the other ANHS hospitals, due to their mission of only caring for a defined population group. However, should such data be desired, it is our impression that the data system of the ANHS could generate comparable data with little difficulty.

FINDINGS

a) **Patterns of Hospitalization** — Of 7,575 admissions to Alaskan hospitals during the study period, over 50 percent went to G.A.A.B. institutions. Of the 29 census areas for which data were gathered, 13 had one or more hospitals within them. As would be expected, most residents of those areas which had hospitals used the hospitals within their area as their primary source of inpatient care. There are, however, two areas where the percent of patients living within that area, and who were hospitalized in their own hospitals, was less than one would anticipate. One is the Matanuska-Susitna area, where only 57.3 percent of the patients from that geographic area who were admitted to any hospital in Alaska used their own hospital (41.4 percent of these patients actually used the hospitals in Anchorage); the other unexpected fact was that of all the residents in Valdez who were admitted to a hospital in Alaska during this study period, only 54.6 percent of them used their own hospital, whereas 36.4 percent of these people preferred to go to hospitals in Anchorage.

Two other areas that seem to use their own hospitals less frequently than might be expected were the Kenai-Cook Inlet area where only 74 percent of these patients used their own hospital, and the Seward area where 78.6 percent used their own hospital. In both of these instances, Anchorage hospitals were the institutions of second choice.

When one examines where patients who live in areas which do not contain a hospital receive their inpatient care (excluding the seven areas where there were not enough admissions to warrant analysis), Anchorage was the hospital of first choice for two of these nine districts — that is, the Aleutian Islands and Bristol Bay. The hospital in Juneau was the hospital of first choice for two districts: i.e., Haines and Skagway; while the hospital at Ketchikan was a primary hospital for two areas, OK (Outer Ketchikan) and PW (Prince of Wales); Fairbanks was the hospital of first choice for three areas: Southeast Fairbanks (SEF), Upper Yukon (UY), and Yukon-Koyukuk (YK). (See Table I)

b) **Use Rates** — It is not surprising to discover that residents of those districts which have their own hospitals have a much higher rate of admissions per thousand population per year than do inhabitants of areas without a hospital.

These former average 135.5 admissions per thousand persons per year while those areas that do not have any hospitals only average 22.6 admissions per thousand persons per year. The residents of only one of these areas without a hospital have a sizable experience in hospitalization; that is the OK area, with a rate of 105.0 which is higher than three districts with their own hospitals — Valdez, Kodiak, and Fairbanks.

A further feature of such an analysis is the fact that six of the districts account for 82.4 percent of all hospital admissions which occurred in Alaska during the study. Anchorage itself accounts for over half of all the hospital admissions in the state. The top six areas are Anchorage, Fairbanks, Ketchikan, Kenai Peninsula, Juneau, and Matanuska. (See Table II)

c) **Referral Hospitals** — A clearer idea of the importance of the hospitals in Anchorage to the state is revealed by the fact that Anchorage hospitals, which are responsible for the hospitalization of 98.5 percent of all G.A.A.B. residents who were admitted to hospitals during the study, are also, as was mentioned above, the hospital of first choice for the Aleutian Islands (80 percent of all admissions for Aleutian residents) and for Bristol Bay (83.3 percent of admissions from the residents of that area). When this is supplemented by the fact that the Anchorage hospitals were the institutions of second choice for an additional nine areas, all of whom had their own hospitals, it is obvious then that the major medical center for Alaska is Anchorage, even though use of Anchorage hospitals by residents from other Alaskan regions only account for 12.4 percent of the total admissions to Anchorage hospitals. Unless it is clear that Anchorage is the hospital of first and second choice for some of these areas and, more importantly, provides a great deal of the inpatient care given to residents of these other areas (some 83 percent), one is likely to dismiss this special role of the hospitals in Anchorage. (See Table III)

When one examines the two major general hospitals in Anchorage, that is, Anchorage Community Hospital and Providence Hospital, it is obvious that the latter is the main hospital for the rest of Alaska with the exception of one area — that of Bristol Bay. The importance of this back-up to the citizens of these other areas is noted particularly in Table III.

A review of all hospital admissions in the state during the study period by diagnoses enables one to get an overall picture of the types of hospital services most needed (when "need" is expressed in terms of felt demand) by the population. A review of Table IV shows the heavy demand for obstetrical services (and thus pre- and post-natal care of maternal and child health programs), comprising over 18 percent of all hospital admissions, and the demand for services to treat patients with heart and respiratory problems and particularly trauma.

Table V focuses more specifically on admissions by diagnosis for selected hospitals. The hospitals chosen were felt to be of interest to the G.A.A.B. in terms of location and size. Clearly, Anchorage Community Hospital's share of obstetrical admissions is out of proportion to other hospitals in the state, as is Homer Hospital's percent of admissions for diseases of the heart, lungs, and airways. Finally, it is evident that Providence Hospital and USAF Elmendorf are providing the majority of inpatient treatment for emergency type diagnoses (trauma and related injuries) in the G.A.A.B. region. Not surprisingly, the G.A.A.B. appears to have a higher number of admissions for trauma diagnoses than the rest of the state. This is accounted for not only by its higher degree of urbanization and population concentration but also due to its role as a referral medical center for the state.

Table VI provides data concerning the number of patient days per 1,000 population per year for G.A.A.B. hospitals. Such information is most important for planning bed needs. It is believed that the lower average length of stay (ALOS) at Anchorage Community Hospital (4.8 days) compared with Providence Hospital (5.7 days) is a reflection of the considerably higher percentage of obstetrical admissions (typically an extremely short term admission) comprising the total number of admissions to Anchorage Community Hospital (over 37 percent of total hospital admissions). This of course would also be reflected in the fewer patient days per 1,000 population per year. [USAF Elmendorf is included in the presentation for two reasons. Firstly, the higher ALOS reflects the policy of armed forces hospitals frequently to require hospitalization until an individual is fit for active duty, due to minimum facilities for convalescent care and the need of the service. Such a policy makes comparisons difficult if not meaningless for cost or utilization analyses and this fact must be understood. Secondly, however, should a decision be made to allow military hospitals to care for civilian populations in addition to its military mission (which is the case for certain services in certain areas in the United States), this would be dealt with in any subsequent facility planning.]

d) **Physician Practice Patterns** — An analysis of physician patterns in providing hospital care did not reveal that physicians living and practicing in the G.A.A.B. provide hospital care in other Alaskan boroughs and regions to any significant extent. In fact, during the three-month study, only 7 Anchorage physicians admitted patients (and only a few, the range being 1-3 patients) to hospitals in other regions. In addition, 6 Fairbanks physicians admitted patients to hospitals in other regions (again only a few) and three physicians based in Sitka admitted patients elsewhere. One of these latter physicians admitted 31 patients to the hospital in Sitka and 32 to Anchorage hospitals. Likewise, one of the Fairbanks physicians admitted 85 patients to one hospital in Anchorage and only 18 to the Fairbanks hospital.

SUMMARY AND CONCLUSIONS

In summary, the results of this study indicate that the boroughs of Kenai-Cook Inlet and Matanuska-Susitna indeed use Anchorage hospitals to a significant extent. This fact is most important now that the Trans-Alaska Oil Pipeline is a reality. In addition to these areas, Anchorage is also the first choice of two of the nine districts in Alaska without hospitals (an additional 7 areas did not have enough admissions to warrant analysis): the Aleutian Islands, and Bristol Bay. In addition, it is seen that Anchorage is the second choice for hospitalization by the residents of an additional 9 areas, all of whom had their own hospitals.

Clearly, the fact that Anchorage hospitals, in particular the Providence Hospital, are acting as the de facto medical center for the State of Alaska, is a most important fact to be understood clearly by all those responsible for and interested in health and hospital planning. Moreover, the unique role of Providence Hospital as a medical center must be understood, as should the role of Anchorage Community Hospital as an important maternity facility for the G.A.A.B.

This study also shows that institutional based emergency services for the private sector should most probably be based at the Providence Hospital. However, Providence must also have close working arrangements with USAF Elmendorf, and undoubtedly the Alaska Native Medical Center regarding planning for a community EMS system. If in the future a bridge is built over Knik Arm and the population increases in that area, no doubt Anchorage Community Hospital's importance in the EMS arena will increase significantly. Accordingly, this situation needs regular monitoring. The opportunity for regionalization and categorization of EMS facilities in the G.A.A.B. seems to present itself readily, and we believed this should be pursued vigorously.

Finally, these data indicate that facility planners in the G.A.A.B. if not other health services planners, must look closely at the regions of Bristol Bay and the Aleutian Islands. Considering the almost total dependence of these regions on the health service institutions of the G.A.A.B., the populations of these areas might well be included in any planning efforts undertaken by the G.A.A.B.

Whatever is decided, clearly Providence Hospital would appear to have a significant responsibility to other regions and institutions in the state by default if for no other reason. While out-of-area admissions comprise but 12 percent of total admissions to this institution, that 12 percent accounts for a majority of inpatient care for residents of two regions of the state and a significant minority of inpatient care for the residents of many other regions.

TABLE I
1st Region of Choice And Percent Admissions For Areas With No Hospitals

Region	Region of Choice	Percent Admissions
Aleutian Islands	Anchorage	80.0
Bristol Bay	Anchorage	83.3
Haines	Juneau	100.0
OK	Ketchikan	97.7
PW	Ketchikan	100.0
Skagway	Juneau	80.0
SEF	Fairbanks	62.1
UY	Fairbanks	88.9
Y-K	Fairbanks	80.0

Data was insufficient to make determinations for the following regions: Angoon, Barrow, Bethel, Cordova, Kobuk, Kuskokwim, WH.

TABLE II
Percent Patients Admitted From All Alaska Hospitals by Selected Regions

Region	Percents All Alaska Patients Admitted To Hospitals	Cumulative Percent
Anchorage	54.65	
Fairbanks	10.69	61.94
Ketchikan	6.41	68.35
Kenai	6.13	74.48
Juneau	4.81	79.28
Matanuska	3.11	82.40

TABLE III
Region of Choice and Percent Admissions by Hospital in Anchorage

Region	1st Choice	Percent Admin.	2nd Choice	Percent Admissions	Percent Admin.	
					Anch.	Prov.
Aleutian Isl.	Anchorage	80.0	x	x	20.0	60.0
Anchorage	Anchorage	98.5	Matanuska	.84	21.9	48.6
Angoon	-	-	-	-	-	-
Barrow						
Bethel						
Bristol Bay	Anchorage	83.3	x	x	50.0	33.3
Cordova	Cordova	80.3	Anchorage	14.8	3.3	14.8
Fairbanks	Fairbanks	95.2	Anchorage	3.9	1.0	2.9
Haines	Juneau	100.0	-	-	-	-
K-C	K-C	74.0	Anchorage	18.13	1.3	16.3
Ketchikan	Ketchikan	99.0	x	x	x	x
Kobuk	x	x	x	x	x	x
Kodiak	Kodiak	87.1	Anchorage	11.99	4.4	7.11
Kuskokwim	x	x	x	x	x	x
Matanuska	Matanuska	57.3	Anchorage	41.38	6.47	33.62
Nome	Nome	94.2	Anchorage	5.23	2.09	2.62
OK	Ketchikan	97.7	x	x	x	x
PW	Ketchikan	100.00	x	x	x	x
Seward	Seward	78.6	Anchorage	18.56	.71	17.14
Sitka	Sitka	97.3	x	x	x	x
Skagway	Juneau	80.0	x	x	x	x
SEF	Fairbanks	62.1	Valdez	24.14	x	x
UY	Fairbanks	88.9	x	x	x	x
Valdez	Valdez	54.6	Anchorage	36.37	10.4	23.4
WH	x	x	x	x	x	x
WP	WP	81.3	Valdez	11.36	x	x
Y-K	Fairbanks	80.0	Nome	12.0	x	x

[x] Too little data to determine.

TABLE IV
Number and Percent Hospital Admissions in Alaska by Diagnoses
October- December 1972

Diagnosis	Number of Admissions	Percent of All Admissions
Heart, Lungs, and Airway	811	10.71
All Carcinoma	99	1.31
Dis. of Abdomen	502	6.63
All Fractures, Strains, and Sprains	806	10.64
Soft Tissue Wounds	98	1.29
Amputations	11	0.15
Burns and Smoke Inhal.	30	0.40
Pregnancy and Assoc. Dis.	1,377	18.18
Newborn	82	1.08
Dis. of Neonatal	22	0.29
C.V.A.	46	0.61
Misc. Trauma	130	1.72
Misc. Medical	411	5.43
Drug Related	132	1.74
Alcohol Related	289	3.82
Psychiatric*	189	2.50
Misc. Surgical	630	8.32
GYN	488	6.44
ENT	500	6.60
Minor Infections	113	1.49
Dis. of Heart and Abdomen	11	0.15
Infectious Diseases	252	3.33
Accidents-Pediatric	7	0.09
V.D.	26	0.34
Urology	164	2.17
Neurological	101	1.33
Dental	36	0.48
Suicide Gestures	16	0.21
Ophthalmology	100	1.32
Discharge Physical	1	0.01
Diagnostic Procedure	58	0.77
Not Given	37	0.49
Total:	7,575	100.0

*Does not include readmissions at API.

TABLE V
Percent Patients Admitted to Selected Alaskan Hospitals by Selected Diagnoses
October-December 1972

	Hospital							
Diagnosis	Anch. Comm.	Prov.	Elmend.	Homer	C-P	Valley	Fairbanks	Juneau
Heart, Lungs, and Airway	7.90	9.3	6.63	25.4	13.7	10.6	11.8	12.2
All Carcinoma	0.98	1.6	1.20	-	1.2	0.6	0.92	2.5
Dis. of Abdomen	5.98	5.5	4.72	5.7	8.5	8.2	6.97	11.7
All Fractures, Strains, & Sprains	2.83	12.7	18.88	12.3	4.8	10.0	9.61	8.5
Soft Tissue Wounds	0.33	0.83	0.70	1.6	2.8	1.7	0.26	3.5
Amputations	0.22	0.09	-	-	-	-	0.39	-
Burns & Smoke Inhal.	0.54	0.37	0.20	0.8	0.4	0.59	0.39	0.50
Trauma	0.50	1.90	1.71	5.7	4.4	1.80	1.97	-
Accident Pedit.		0.09	0.10	-	-	0.59	-	-
Pregnancy	37.28	16.70	17.17	12.3	15.4	24.7	13.42	15.70
Newborn	-	0.60	-	-	1.2	-	1.80	12.97
Neonatal	0.11	0.14	0.80	0.8	0.4	-	-	0.25
CVA	0.98	0.37	-	-	1.2	1.2	0.53	1.0
Misc. Medical	5.5	4.7	4.52	2.4	1.6	7.7	8.42	0.50
Drug Related	1.50	1.53	1.81	3.2	4.4	0.60	1.80	0.75
Alcohol Related	2.50	1.60	2.41	5.70	0.80	1.80	4.30	1.25
Psychiatry	0.43	1.20	3.71	3.20	0.80	0.60	2.11	1.50
Suicide Gestures	-	0.09	0.50	-	-	-	0.39	0.25
Misc. Surgery	11.5	12.7	7.23	-	7.7	3.5	10.50	0.70
GYN	6.85	7.2	5.72	1.6	9.3	6.5	8.40	11.50
ENT	5.7	9.7	7.33	5.7	10.9	11.7	2.89	4.70
Minor Infection	1.1	1.5	1.20	3.2	1.2	0.59	1.84	1.50
Infectious Dis.	1.3	1.0	5.12	4.1	2.0	3.5	4.90	4.70
V.D.	0.33	0.37	0.30	1.6	0.4	1.2	-	-
Urology	1.4	2.2	1.51	1.6	2.4	0.59	1.97	1.00
Neurology	0.87	1.5	1.91	1.6	-	0.59	1.71	2.0
Dental	0.33	0.46	2.11	-	-	-	0.13	-
Ophthalmology	2.60	1.30	1.61	-	3.2	-	0.79	0.75
Diagnostic Procedure	0.22	2.20	0.40	-	-	-	0.66	-
Not Given	0.11	0.56	0.30	-	-	-	1.40	-
Total:	99.89	100.0	100.0	98.5	98.7	98.85	100.0	99.92

TABLE VI

No. Patient Days per 1,000 Population per Year at G.A.A.B. Hospitals for G.A.A.B. Residents Only

Hospital	No. Admissions	Average LOS	Population	No. Pt. Days*** per Year per 1,000 Pop.
Anch. Comm.	3,356	4.8	91.542*	176.0
Prov.	7,440	5.7	91.542*	463.3
Elmend.	3,964	7.2	33.000***	864.9
Total:	14,760	5.9	124,542	699.0****

*Excludes military personnel and dependents.

**Military personnel and dependents only.

***No. Admissions X Ave - LOS - Population (000).

****No. Admissions at each hospital X Ave - LOS at each hospital = total no. pt. days at each hospital: Divide sum of tot. no. all hospital days by total G.A.A.B. population (including military and dependents).

No. Patient Days per 1,000 Population per Year at G.A.A.B. Hospitals

Hospital	No. Admissions	Average LOS	Population	No. Pt. Days per Year per 1,000 Pop.
Anch. Comm.	3,680	4.8	91.542	193.0
Prov.	8,644	5.7	91.542	538.2
Elmend.	3,984	7.2	33.000	869.2
Total:	16,308	5.9	124,542	767.8

THE CURRENT MANAGEMENT OF MALIGNANCY

III - Lymphoproliferative Disorders and Leukemias*

Frank J. Panettiere, M.D., FACP

In the last article of this series, we discussed Hodgkin's disease, a condition characterized by depletion of lymphoproliferative cells. Now, we will consider disorders which have in common the accumulation of excessive numbers of lymphatic and hematopoietic cells; namely, the non-Hodgkin's lymphomas, multiple myeloma, and the leukemias.

THE NON-HODGKIN'S LYMPHOMAS

The terms lymphosarcoma and reticulum cell sarcoma are being used less and less. The newer nomenclature, promulgated by Rappaport[1], is not only simpler, but it is also more descriptive, more meaningful prognosticly, and, if used appropriately, much more precise. This classification is based on the presence or absence of nodularity (presence is better prognosticly) and the specific type of proliferating cell. Table 1 lists the types in order of decreasing prognosis. Therefore, the "best kind to have" is the one with the full name of Malignant Lymphoma, Nodular, Lymphocytic, Well Differentiated. The worst prognosis is implied by the diagnosis of Malignant Lymphoma, Diffuse, Undifferentiated. Because the new classification gives better prognostic information, it helps us to decide on the therapy most appropriate to the individual patient. The new classification has an additional, more hidden benefit. The pathologist can no longer resort to the inexact "catch all" term reticulum cell sarcoma. He must now come to a decision as to whether the tumor is or is not a malignant lymphoma, and also what cells make it up. (It has been estimated that some 30% of the cases called "reticulum cell sarcoma" are not lymphomas at all, but rather such tumors as anaplastic renal cell carcinomas or amelanotic melanomas. The prognoses and therapies of these carcinomas are much poorer than those of the malignant lymphomas. Therefore an incorrect diagnosis can so mislead an attending physician that he would severely mismanage the patient. He could either fail to utilize appropriate intensive lymphoma therapy and so lose a chance for prolonged remission or cure; or contrariwise, he could inappropriately use very intensive — and toxic — therapy without any reasonable chance for significant benefit.)

Much more frequently than with Hodgkin's disease, the non-Hodgkin's lymphomas are widely disseminated when we first diagnose them. The National Cancer Institute group histologically evaluated the livers of 100 consecutive patients with non-Hodgkin's lymphoma by means of procedures up to and including exploratory celiotomy.[2] When all histologic types are included, 58% show liver involvement. This includes much higher percentages for lymphocytic than histiocytic lymphomas. Another therapeutically important side of lymphomatous involvement is the bone marrow. The Stanford group studied the incidence of marrow involvement at the clinical onset of disease.[3]

The views expressed are those of the author and do not necessarily reflect the views of the U. S. Air Force or the Department of Defense.

* The first article in this series appeared on pages 114-116 of the issue of Sept. 1973; the second article was on pages 7-11 of the Jan. 1974 issue.

Dr. Panettiere wrote this paper while Chairman of the Department of Medicine at the USAF Hospital Elmendorf. He is an Associate Investigator of the Southwest Oncology Group and a member of the American Society of Clinical Oncology. This summer he leaves for a staff position at the University of Texas Medical Branch, Galveston, Texas 77550.

Eleven of 195 marrow aspirates were positive as were 22 of 141 needle biopsies and 17 of 96 open marrow biopsies. Interestingly, only 5% of their patients with histiocytic lymphoma proved to have marrow involvement at the onset of their disease.

Because non-Hodgkin's lymphoma is so often disseminated, and frequently involves areas not well managed by radiotherapy, the major form of treatment has been chemotherapy. The data[4] show relative differences in response among the lymphomas. While in Hodgkin's disease nitrogen mustard is more effective than Cytoxan, the relative positions are reversed in the non-Hodgkin's lymphomas. Where Cytoxan shows greater effectiveness in lymphocytic lymphomas, vincristine is more beneficial in the histiocytic varieties. The combination of these two drugs plus prednisone in intermittent "pulse" therapy has become the standard chemotherapeutic regimen for non-Hodgkin's lymphomas. It has been called CVP (for Cyclophosphamide Vincristine Prednisone) by the National Cancer Institute which reported a 57% complete remission rate in the lymphocytic lymphomas they treated.[5] The Southwest Oncology Group calls the combination COP (for Cyclophosphamide Oncovin Prednisone), and in their early studies reported a 50% complete response rate in the lymphocytic varieties and 39% in the histiocytic and undifferentiated lymphomas.[6] This group has been testing a variety of COP modifications, and the current results are the best yet reported anywhere. These involve the addition of the antitumor antibiotic adriamycin (or hydroxyldaunomycin, and hence the letter H in the acronyms). Adriamycin plus a low dose COP is called CHOP. A higher adriamycin dose replacing the cyclophosphamide of COP results in the combination called HOP. Both CHOP and HOP are currently being used to determine if either has greater effectiveness in specific histologic types of lymphoma. A preliminary analysis[7] shows that some 2/3 of patients treated with either combination have a complete disappearance of their tumor. Even more impressive is the fact that 70% of those with histiocytic lymphomas have complete responses. This is the highest response rate ever reported in such tumors.

Because non-Hodgkin's lymphomas are generally disseminated, radiotherapy has not been used to the same extent it has in Hodgkin's disease. The National Cancer Institute is presently comparing total-body radiotherapy with their CVP combination.[8] Their most current data include 71 previously untreated patients with lymphocytic lymphomas. There seems to be no difference in the responsiveness of the nodular variety, but there may be an advantage to total-body radiotherapy for patients with diffuse lymphocytic lymphomas. One might assume that eventually the recommended treatment for many patients will be a combination of radiotherapy for bulky disease plus chemotherapy to "mop up" the disseminated cells remaining.[9]

MULTIPLE MYELOMA

Before we can rationally discuss multiple myeloma, we must define the condition. Table 2 summarizes criteria of the Myeloma Task Force.[10] Accurate diagnosis is important because a benign monoclonal gammopathy, or a solitary plasmacytoma, implies a far better prognosis and requires far less therapy than multiple myeloma.

When multiple myeloma is associated with the production of a M-component immunoglobulin, the amount of paraprotein secreted by each individual neoplastic cell seems to remain constant during the duration of the disease. Therefore, if we repeatedly measure an individual patient's M-protein production, we can learn what effects our therapy is having on his total body number of malignant plasma cells.[11] Serial bone marrow aspirations are not similarly meaningful because of the patchy nature of the disease. Marrow aspirates taken simultaneously from different sites characteristically may show a three- or four-fold variation in amount of plasma cell infiltrate.

In the therapy of the patient with multiple myeloma one should first act to correct such complications such as hypercalcemia, infections, anemia, dehydration, and azotemia. Radiotherapy might be offered for relief of particularly painful lesions. Then, chemotherapy should be started and its response monitored by serial determinations of M-protein production. If by treatment, we cut this by 50% (and therefore halve the total number of myeloma cells), we should see good symptomatic benefit but no demonstrable increase in survival. It takes at least a decrease to 25% of the original number of malignant cells to significantly prolong life span.[12] There are now enough data to conclude that pulses of myeloma chemotherapy are superior to continuous therapy with the same agents.[13] In addition, it appears that patients whose tumors demonstrate resistance to intermittent melphalan therapy will frequently respond to intermittent cyclophosphamide.[14] The Southwest Oncology Group studies indicate that intermittent melphalan and prednisone is superior to melphalan alone in inducing remissions, and melphalan and prednisone plus procarbazine is still more effective.[12] However, although the three-drug combination induces remissions more frequently than the one or two drugs, once a remission is induced, survival is equally prolonged no matter which regimen caused the response.

Bony involvement, a cause of significant disability in myeloma patients, can respond to systemic chemotherapy. Of 68 patients who responded to melphalan alone or in combinations (as measured by a decrease in myeloma protein production to 25% of initial values), 30% had radiographic evidence of bone repair.[15] Beyond this, pharmacologic healing of bone lesions is controversial. There are proponents of fluoride therapy, often in combination with calcium and/or androgens, to remineralize bone.[16] Others deny there are demonstrable benefits from fluorides and suggest they may even be detrimental.[17] (The correspondence to the editor that this latter report engendered over several months proves that this remains a controversial issue!) Not controversial is the place of gamma globulin injections as prophylaxis against infections in multiple myeloma. They are ineffective.[18] Most commonly, these patients develop pneumococcal pneumonia and so penicillin is usually the drug of choice when pneumonia occurs.

HEAVY CHAIN DISEASES

As we mentioned in the second article of this series, the so-called "B-lymphocytes" are precursors of plasma cells. Therefore, it should not be surprising that there are neoplastic conditions that have features of both lymphomas and plasma cell tumors. Immune globulins are composed of two pairs of polypeptide chains. The bigger ones are called heavy chains. A neoplastic proliferation of B-cells secreting heavy chain fragments results in what is called a heavy chain disease. Thus far, three different types of heavy chain diseases have been described. Gamma-heavy chain disease, characterized by the presence of a gamma immunoglobulin fragment, generally resembles a malignant lymphoma rather than multiple myeloma. Nineteen of 21 patients had lymphadenopathy and 16 of 23 had splenomegaly.[19] Alpha-chain disease is characterized by the alpha immunoglobulin fragment and lymphomatous infiltration diffusely throughout the small bowel.[20] Diarrhea is the presenting complaint. Mu-heavy chain disease presents as a slowly progressive chronic lymphocytic leukemia.[21] These heavy chain diseases are rare (about 50 reported cases) and the best treatment is unknown. However, they serve as a "missing link" for us showing a relationship between lymphoma, myeloma, and lymphatic leukemia.

THE LEUKEMIAS

Pediatric acute lymphoblastic leukemia is both very easy and very difficult to treat. Relatively benign thereapy with the drugs vincristine and prednisone will result in a complete remission in about 90% of new cases. (But remember: "complete remission" means that our current tests cannot detect any leukemia, and the resolution of our tests is such that we cannot diagnose the presence of leukemia if the total body number of leukemic cells is less than 100,000,000!) Changing such a remission into a possible cure involves very intensive combinations of drugs and radiotherapy.[22] Such therapy is risky. In one large center, some 5% of 499 patients died at a time when they had been in complete remission of their disease for at least a month.[23] *Pneumocystis carinii*, herpesviruses, cytomegalovirus and fungi were the principal causes of death. Remember, these patients died at a major center with extensive experience in the management of such problems. How much more will be the risks to the patient not blessed with such expert therapy. Is such intensive therapy at a center worth the risk and problems of traveling far from home? Yes! If a patient is so intensively treated for his leukemia for at least two years, he will have at least a 50% chance of having no evidence of leukemia five years later.[24] No leukemia on no treatment for five years probably means a cure of the disease.

Adult acute granulocytic leukemia is not yet nearly so responsive to therapy. In fact, it was not too long ago that there was controversy as to whether there was any benefit to treatment at all.[25] After the drug cytosine arabinoside appeared and proved effective in this disease,[26] much of the opposition to therapy vanished. Soon, there were reports of several drug combinations able to induce complete remissions in over 50% of patients.[27] Since these complete remissions unquestionably prolong survival, there is now general agreement that almost every patient should be treated.

In effect, such treatment consists of our emptying the patient's marrow by destroying many of his leukemic cells as well as some of the few remaining normal cells. Therefore, during therapy, the patient is extremely susceptible to the complications of marrow aplasia: hemorrhage and sepsis. Generally, hemorrhage is controlled by platelet transfusions. (A rule of thumb is that the transfusion of platelets from one fresh-drawn unit of blood will raise the recipient's platelet count by 16,000 per meter squared of his body surface area.) During remission induction, an average patient might require six units of platelets three times a week for two to six weeks — or longer. Infection is the other major problem. Granulocytopenia, whether caused by the leukemia, by the chemotherapy, or by both, often results in sepsis. This remains the leading cause of death in leukemia patients today as it was before we had effective chemotherapy.[28] There is a special problem here. Most of the usual signs by which a physician recognizes infection depend on the presence of granulocytes. Leukocytosis, abscess formation, pyuria, auscultatory rales and radiographic pulmonary infiltrates all require the presence of granulocytes. Therefore, the patient can become infected, septic, and dead before the problem is recognized.

When you add to this the potential consumption coagulopathy seen in the promyelocytic form of leukemia and the severe, potentially fatal, potassium wasting of the monocytic variants,[29] one can appreciate that appropriate therapy requires both expertise in leukemia cytologic diagnosis,[30] and 24-hour physician care during the weeks of initial remission induction. Therefore, although one can give such induction therapy of acute granulocytic leukemia in Alaska, if a physician decides to embark on such a regimen, he must be prepared to be within minutes of the hospital day and night for several weeks. Reliable blood bank support is also vital. (A patient I treated at Elmendorf received 175 units of platelets and 24 units of packed red cells over the four months it took before he achieved a completely normal peripheral blood and bone marrow.)

Chronic leukemias are a different kind of situation. Chronic lymphocytic leukemia is usually relatively benign and is often controllable with benign therapy in the form of chlorambucil or leukeran. In itself, chronic granulocytic leukemia can be similarly easy to treat. The usual drug of choice is busulfan or myleran. The problem is that while this condition itself is so benign that it hardly deserves the name of leukemia, about 70% of such patients subsequently develop a most malignant acute blastic leukemia. This makes many feel that chronic granulocytic leukemia is actually a preleukemic condition.[31]

TABLE I

NOMENCLATURE OF NON-HODGKIN'S LYMPHOMAS

OLD NOMENCLATURE	CELL TYPE IN NEW CLASSIFICATION
Lymphocytic Lymphosarcoma	Lymphocytic, Well Differentiated
Lymphoblastic Lymphosarcoma	Lymphocytic, Poorly Differentiated
Reticulolymphosarcoma	Mixed cell, Histiocytic, Lymphocytic
Reticulum Cell Sarcoma	Histiocytic
Stem Cell Lymphosarcoma (Reticulum Cell Sarcoma)	Undifferentiated

TABLE II

DIAGNOSTIC CRITERIA FOR MULTIPLE MYELOMA

A. Serum or Urine Peak Absent, REQUIRE: Radiographic or palpable tumor, plus either of the following:
   a) Otherwise unexplained marrow plasmacytosis of 20% in two different sites, or
   b) Biopsy showing replacement and distortion of normal tissue by plasma cells.

B. Paraimmunoglobulin Present, REQUIRE: Any one of the following:
   a) Otherwise unexplained marrow plasmacytosis of 5% or more,
   b) Tissue biopsy as above,
   c) Circulating plasma cells in an amount of at least 500 per cubic milliliter,
   d) Otherwise unexplained osteolytic lesions.

TREATMENT OF RUPTURED LARGE OMPHALOCELE

Marcell Jackson, M.D.
John Tower, M.D.
Theodore Shohl, M.D.

A neonate with a large omphalocele presents an urgent problem of management. Various methods of treatment have been advocated and are still used. These include primary closure, delayed closure and the use of topical agents such as 2% mercurochrome to promote thickening of the membrane. Primary closure is clearly the procedure of choice when this can be accomplished without producing atelectasis and interfering with venous return. These restrictions limit primary closure to defects of two centimeters or less in diameter.

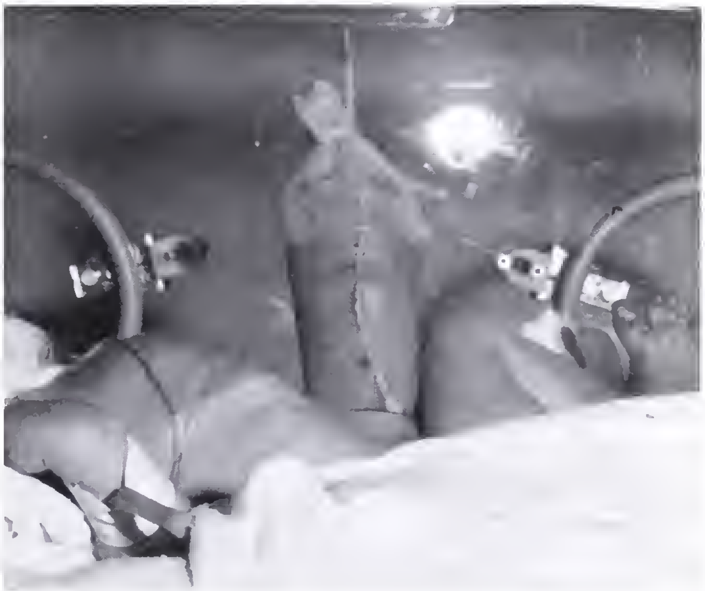
The larger defects have been approached by a staged method described in 1948 by Robert Gross (1) consisting in mobilization of skin flaps to cover the defect and protect the viscera, with later operations to repair the resulting hernia when the infant had grown sufficiently. This technique was an improvement over primary closure of large defects, especially in cases where the membrane covering the viscera had ruptured, but the later repair procedures were difficult and traumatic due to adhesion formation to the mobilized skin.

A major improvement in technique was described by Samuel Schuster in 1967. (2) This consists of the formation of a plastic pouch to contain and protect the viscera with gradual reduction of size of this pouch over a period of a week or two, followed by closure of the abdomen and removal of the prosthesis. This method has two major advantages over the Gross technique; the rate of reduction of the viscera can be controlled by the surgeon and adjusted to the condition of the infant and the prosthesis does not adhere to the intestines, lessening the adhesion problem. The successful application of this method is the subject of the following case report.

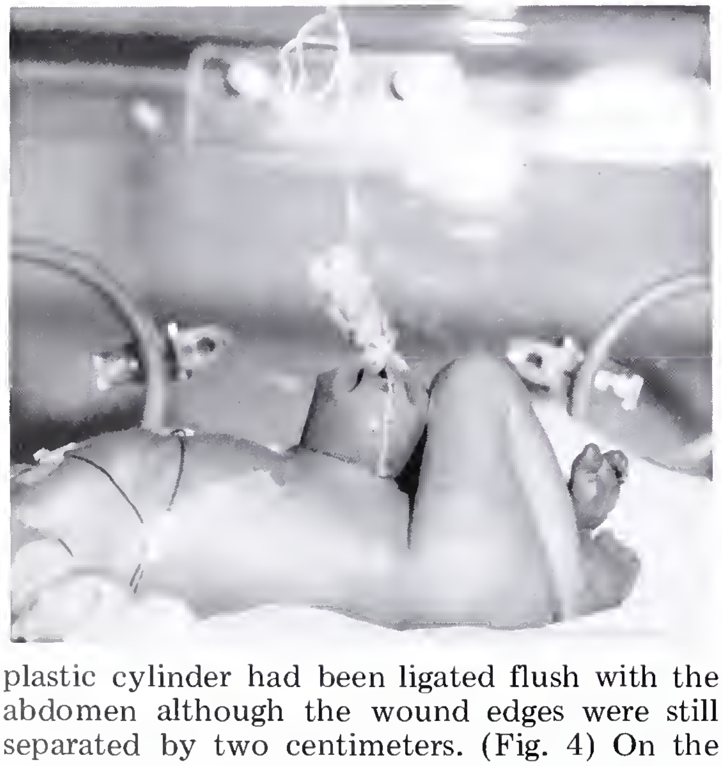
The infant was delivered at term after a normal pregnancy, the mother's third. The birth weight was five pounds. A ruptured omphalocele was noted immediately by Dr. Jackson. Moist sterile saline dressings were applied to protect the exposed viscera and a small tube placed in the stomach for decompression and surgical repair was carried out within two hours under general anesthesia expertly administered by Dr. James Fraser. The defect was five centimeters in diameter. Apart from the constantly present incomplete rotation of the colon no intestinal atresia or other abnormality was found. A gastrostomy was made and a Silon pouch constructed ten centimeters in length. This was suspended vertically from the isolette top.

The infant tolerated the procedure well. She was provided with hyperalimentation intravenously under the supervision of Dr. Tower. Penicillin and Kanamycin were administered parenterally and the pouch was wrapped in gauze with a periodic washing in dilute Kanamycin.

After twenty-four hours the column of intestines filling the pouch had reduced sufficiently to allow shortening by one inch of the cylindrical pouch. (Fig. 1) This process was



repeated at twenty-four to forty-eight hour intervals. (Figs. 2 & 3) By the ninth day the



plastic cylinder had been ligated flush with the abdomen although the wound edges were still separated by two centimeters. (Fig. 4) On the twelfth day the infant was taken to the operating room and the defect partially closed. It was felt that complete closure would result in undue abdominal pressure and a small plastic patch was retained. This was removed at the third and final operation on the fifteenth day with closure of fascia and skin; feeding by mouth was then started. Stool was passed twenty-four hours and

the infant was discharged with the gastrostomy clamped on the twentieth day.

Following discharge the gastrostomy tube was removed and steady progress has occurred. There were several episodes of mild regurgitation subsiding after one month. At seven months of age she weighed eighteen pounds and the abdomen was well healed without hernia.

DISCUSSION

Prior to the development of a prosthetic pouch to expand abdominal volume the mortality for large omphalocele was sixty to eighty per cent and for those with rupture of the membrane approached one hundred per cent. Since widespread use of this technique the mortality has dropped to ten to twenty percent and is primarily due to associated anomalies or prematurity. The viscera have never been in the abdomen in these infants and forcible closure of the defect will result in atelectasis and compromised venous return. It is amazing how rapidly the abdomen will enlarge, assisted by steady hydrostatic pressure from a ten centimeter column of intestines so that primary closure, which is absolutely impossible at birth, can be accomplished safely within two weeks. During this time our patient was maintained in positive nutritional balance by intravenous hyperalimentation managed under the supervision of Dr. Tower without any intestinal feeding until the defect was closed. These methods have greatly changed the outlook for these infants with a successful outcome now the rule rather than a rare exception.

REFERENCE

1. Gross, R. E., A new method for surgical treatment of large omphaloceles. *Surgery 24*:277, 1948.
2. Schuster, S.R., A new method for the staged repair of large omphaloceles. *Surgery, Gynecology and Obstetrics 125*:837-850, 1967.

PRESIDENT'S PAGE

The annual meeting of the Alaska State Medical Association convened June 5-7, in Anchorage at the splendid new Captain Cook Hotel. As in 1972 and 1973 we met as a Health Congress with the Alaska State Nurses Association, the Alaska Public Health Association, the Alaska Physical Therapy Association, the Alaska State Medical Association Women's Auxiliary, and other groups. Attendance was good. Dr. Keith Brownsberger and his Convention Committee deserve high praise for their accomplishment.

Pharmaceutical companies and other medical exhibitors loyally came and loyally grumbled that physicians — others don't count — did not inspect their wares enough. They said arrangements were best in Kenai in 1970 when one had to negotiate the exhibits to get to lecture halls and when the coffee table was amidst the exhibits. Financial support for the congress comes substantially from exhibitors. We must not forget this in planning future meetings.

The meeting was graced and enlivened by the presence of Dr. Robert Hunter, Trustee of the American Medical Association; Dr. Jack Lewis, President of the American Medical Political Action Committee; Professor Ingeborg Mauksch, family nurse practitioner, University of Missouri; and Mrs. Ruth Scrivner, National President of the Women's Auxiliary to the American Medical Association; Mr. Carl Jack, Director, Health Affairs Division, Alaska Federation of Natives and others.

Speakers on scientific subjects were instructive and affable. They were Dr. Robert Williams and Dr. Will Fujimoto from Seattle, Dr. Phillip Snedecor from Portland, Dr. Jack Remington from Stanford, Dr. Robert Blizzard from Baltimore. In addition we had N.A.S.A.'s physician astronaut, Dr. Story Musgrave. He was unreal! How could anyone be that talented, that organized, that experienced in so many areas and personable to boot?

Luncheons were luncheons. Banquets were banquets. Some of the food was even good.

Dr. Glenn Crawford conducted business sessions with his usual skill, gavelling through needed bylaw changes long in gestation. Largely through his efforts the financial slough of last year has been waded, and we are now in higher, drier financial ground. A workable budget was adopted. We cannot afford an executive secretary yet but have added a second general office secretary.

I moved from President-Elect to president. Dr. Gary Hedges, Juneau, was chosen President-Elect. Dr. Douglas Smith, Anchorage, was elected Secretary-Treasurer and Dr. Paul Isaak, Soldotna was elected to a new office of Alternate Delegate to the American Medical Association. Later in June in Chicago, Dr. Joseph Ribar, Fairbanks, was elected Vice-President of the A.M.A. — a singular honor to him and to the state with the fewest physicians. With Joe, Bill Kinn, our Delegate, and Paul Isaak, Alternate Delegate, our Association has more voice in the national body than ever before.

The motions and resolutions passed are instructions to the officers and Council as to how to conduct the affairs of the Association between annual meetings. We moved, not without minority protest, to accept a PSRO planning grant for a six-month period, July-December 1974, which Dr. Crawford and other members had perspicaciously applied for in April.

A motion to investigate again the feasibility of group professional liability insurance was passed. Implementation of the action is already under way.

Important resolutions were made concerning national health insurance, relicensing of physicians, transportation of ill patients, advertising and soliciting, nursing education, blood banking, immunity from subpoena, and establishment of a state board of health. These and other resolutions adopted are printed below.

Rodman Wilson, M.D.

RESOLUTION No. 1-74
SUBJECT: Honorary Membership for Milo Fritz
SUBMITTED BY: Anchorage Medical Society

Milo Fritz, renowned laryngopharyngorhinootomastoidologist and oculist, sometime President of the Alaska Territorial Medical Association, Member in the House of Representatives of the Fifth and Eighth Alaska Legislature, once candidate for Governor of Alaska, once candidate for Secretary of the United States Department of Health, Education and Welfare, itinerant flying physician to the bush, gadfly to bureaucracy, quintessence of work ethic, master of syntax, simile, and lingual barb, respecter of all persons, sycophant to none, physician to fifty thousand in a career of thirty-five years in Alaska, and beloved colleague, has retired (almost, that is) to Anchor Point in anticipation of attaining the pinnacle of sociologic success, that is to say, eligibility for Medicare.

THEREFORE, BE IT NOW RESOLVED, that the Alaska State Medical Association bestow upon this ineffable individual, Milo Fritz, Honorary Membership.
Passed Unanimously.

RESOLUTION No. 5-74
SUBJECT: Transportation of Seriously Ill Patients
SUBMITTED BY: Stanley Jones, M.D.

WHEREAS, several communities in the State are not served by many medical specialities, and

WHEREAS, a number of medical emergencies occur in many of these areas that cannot be treated by the local physicians,

BE IT RESOLVED, that all commercial carriers in the State should do everything within their power when requested to cooperate with the expeditious handling of medical evacuations when certified as necessary by the attending physician.

Passed Unanimously.

RESOLUTION No. 6-74
SUBJECT: PSRO
SUBMITTED BY: Glenn B. Crawford, M.D.

WHEREAS, development of Federal PSRO regulations and policy has not been completed and statutory amendments as well as regulation changes are anticipated; and

WHEREAS, acceptance of a PSRO planning grant by ASMA and designation as a conditional PSRO requires a legally recognized entity separate from the medical association, open to all licensed physicians and osteopaths and to which at least 25 per cent of the licensed and active physicians and osteopaths belong; and

WHEREAS, the Alaska State Medical Association membership includes more than the 50 per cent of the practicing physicians when united opinion may reject a PSRO proposal; and

BE IT RESOLVED, that any application for designation as a conditional PSRO be presented to the membership of the Alaska State Medical Association for debate and endorsement.

Passed.

RESOLUTION No. 7-74
SUBJECT: National Health Insurance
SUBMITTED BY: Glenn B. Crawford, M.D.

WHEREAS, Social Security premiums are unrelated to total income or ability to pay and the present rate is an excessive burden to the low wage earner, and

WHEREAS, existing Social Security programs for providing medical care (Medicare and Medicaid) are excessively regulatory and counter productive to economy and efficiency, and

WHEREAS, the ASMA has previously endorsed the basic principles incorporated in the AMA's "Medicredit" approach to National Health Insurance, i.e., freedom of choice by both patient and practitioner, pluralistic means of health care delivery, reasonable cost sharing by beneficiaries, comprehensive basic protection and catastrophic coverage and general revenue funding,

BE IT RESOLVED, that the Alaska State Medical Association is opposed to any National Health Insurance program paid through or administered by the Social Security System, and

BE IT FURTHER RESOLVED, that Medicare and Medicaid be abolished as unnecessary and redundant if National Health Insurance incorporating the Medicredit proposal is enacted.

Passed.

RESOLUTION No. 8-74
SUBJECT: S2994-National Health Planning and Development Act of 1974
SUBMITTED BY: Glenn B. Crawford, M.D.

WHEREAS, S2994 provides for planning and development of health services through Health Planning Agencies and also specific government regulation including rate setting authority over health services through State Health Commissions,

Repeals the existing comprehensive health planning and regional medical programs,

Licenses health care facilities and health care delivery personnel,

As well as provides for many other functions all subject to review by the Secretary of Health Education and Welfare who is empowered to terminate State agencies and directly perform such functions, and

WHEREAS, the passage of S2994 would result in a vast monolithic public utility,

BE IT RESOLVED, that the Alaska State Medical Association is opposed to S2994-National Health Planning and Development Act of 1974.

Passed.

RESOLUTION No. 9-74
SUBJECT: Relicensing
SUBMITTED BY: Glenn B. Crawford, M.D.

WHEREAS, there are multiple mechanisms for peer review,

WHEREAS, a license to practice medicine may be revoked for professional incompetence,

WHEREAS, continuing medical education is readily available, encouraged and often required, and

WHEREAS, many physicians specialize and pursue a limited practice,

BE IT RESOLVED, that the Alaska State Medical Association is opposed to compulsory relicensing examinations as being unnecessary, potentially punitive and minimally related to performance.

Passed.

RESOLUTION No. 10-74
SUBJECT: Advertising and Soliciting
SUBMITTED BY: James Lundquist, M.D.

The Codes of Ethics of the American Medical Association, of the Alaska State Medical Association and its component societies, of most physician professional organizations, prohibit advertising of services or soliciting of patients; the Medical Practices Act of the State of Alaska prohibits a physician advertising his services.

RESOLVE, that the Alaska State Medical Association consider the soliciting of patients, the act of seeking enrollees, advertising one's services, whether directly or indirectly through an agent, whether for a fee for service practice or for a prepaid medical service, a violation of the code of ethics and subject to immediate expulsion of the physician or physicians involved from the Association.

Passed.

RESOLUTION No. 11-74
SUBJECT: Nursing Education
SUBMITTED BY: James Lundquist, M.D.

WHEREAS, the trend in Nursing education has been toward degree programs, and

WHEREAS, this trend has been accompanied by a change in orientation toward supervisory skill with the de-emphasis of patient care, and

WHEREAS, it has been the indicated desire of many in Nursing education to place nurses in positions of increased responsibility for actual patient care as nurse practitioners, and in critical care areas, and

WHEREAS, it has been the observation of the membership of the Alaska State Medical Association that degree nurses are often less well prepared to participate in patient care than those from diploma schools,

THEREFORE, BE IT RESOLVED, that the Alaska State Medical Association urge those institutions involved in Nursing Education in Alaska to review and restructure their curricula, stressing actual clinical experience.

Passed.

RESOLUTION No. 18-74
SUBJECT: Blood Banking
SUBMITTED BY: Fairbanks Medical Association

WHEREAS, human blood is now considered a national resource, and

WHEREAS, a National Blood Commission is being formed, and

WHEREAS, the distribution of available blood in Alaska is sometimes erratic.

RESOLVED, that the ASMA explore with the appropriate agencies the possibility of finding funding to set up an intergrated regional program within the State of Alaska.

AND BE IT FURTHER RESOLVED, that the President of the State Medical Association appoint an ad hoc committee to do the exploration comprising that of this state.

Passed.

RESOLUTION No. 1974
SUBJECT: Subpoena Immunity
SUBMITTED BY: James Wilson, M.D.

BE IT RESOLVED, to continue to ask our Legislative Committee to work towards legislation making a hospital and medical society committees' reports immune from legal action to subpoena. This is essential if these committees are ever to function effectively.

Passed.

RESOLUTION No. 20-74
SUBJECT: Commissioner of Health and Social Services
SUBMITTED BY: J. Ray Langdon, M.D.

BE IT RESOLVED, that ASMA supports the creation of an Administrative Board (Section 26) to govern the Department of Health and Social Services with power to hire and fire the Commissioner and to set policy for the Department.

BE IT FURTHER RESOLVED, that ASMA recommends that the Board be appointed to staggered six-year terms not at the pleasure of the Governor, but removable only for cause.

Passed.

Letter to the Editor

Dear Sir:

With reference to Dr. Worral's letter in the May issue, I thought that this abstract from the tumor registry would be of interest to your readers:

One hundred cases of vaginal and 70 cervical adenocarcinomas from the Registry of Clear-Cell Adenocarcinoma of the Genital Tract in Young Females have been analyzed. The age range of the patients was seven to 29 years and the frequent association with prenatal exposure to dicthylstilbestrol and similar non-steroidal estrogens was confirmed. The hormone administration began prior to the 18th week of pregnancy and was continued for periods ranging from one week to almost the entire length of the pregnancy. The total dosages ranged from 300 to 18,200 mg. Although most patients had vaginal bleeding or discharge, 16 per cent were asymptomatic. Abnormal cytology was the first clue to the diagnosis of cancer in 11 patients, but 21 per cent of the smears were negative. The larger and more deeply invasive tumors were often complicated by lymph node metastases, but these were also encountered in one case in which the tumor had an area of only 3 cm^2 and with another tumor that invaded less than 3 mm. These findings suggest that local treatment of the primary tumor alone may be inadequate in some cases. Recurrences have developed in 37 of the patients and 24 of them have died, although the follow-up in one-third of the cases has been less than two years. The recurrences frequently involved the lungs and supraclavicular lymph nodes as well as the pelvis. The very common association of vaginal adenosis and the occasional co-existence of transverse vaginal or cervical ridges provide morphologic evidence of a stilbestrol-related disturbance in the development of the lower mullerian tract. The results of intravenous pyelography suggest that the development of the urinary tract is not affected. The fact that all the asymptomatic patients with carcinoma have been successfully treated thus far underscores the importance of screening exposed asymptomatic patients in search of early cases. The rarity (nine per cent) of these cancers prior to the age of 12 years, suggests that the inclusion of a large population of girls in this age group in a screening program would uncover very few cases. Such individuals should certainly be examined, however, at any time abnormal vaginal bleeding or discharge develops.

Sincerely,
Donald R. Rogers, M.D.

NORTHERN HIGHLIGHTS - 13

SELECTED ABSTRACTS ON MEDICINE AND PUBLIC HEALTH IN THE NORTH

OPHTHALMOLOGY IN THE ARCTIC

Adams, S.T.

Symposium on Arctic Ophthalmology, Introduction. *Can. J. Ophthal. 8:* 183-184, 1973.

This and most of the following papers are abstracted from the special symposium on arctic ophthalmology held as part of the 35th annual meeting of the Canadian Ophthalmological Society held at Harrison Hot Springs, British Columbia, on June 28, 1972. Much of the material presented was derived from the Canadian University Arctic Ophthalmology Survey of 1970 and 1971. Participants in the symposium included three major groups: government officials responsible for northern health care, key figures in ophthalmology from Canada and other countries, and representatives from four Canadian medical schools. All groups collaborated in the symposium and all are represented here.

Cass, E.

A decade of northern ophthalmology. *Can. J. Ophthal. 8:* 210-217, 1973.

This paper gives a measure of historical perspective on the ophthalmological conditions among Canada's northern Indians and Eskimos. The author has had a wide and long experience in the western Arctic as ophthalmological consultant to the Northern Health Service, beginning in 1958.

In the early years, the greatest causes of blindness were acquired disease, especially tuberculosis, in the Indians, congenital disease in the Metis, and tuberculosis, trauma, and congenital disease in the Eskimos.

The author has noted definite tribal differences among the Northern Indians with respect to the occurrence of eye disease. For example, there is virtually no congenital disease among the Loucheux Indians, who have strict rules against consanguinity, as compared with a high prevalence among the Hare Indians, who have no such rules. Marfan's disease and congenital cataracts are not infrequent among the Crees, whereas retinitis pigmentosa is sometimes seen among the Dogrib's. Eye disease due to congenital viral infection is seen in all groups, as is evdence of birth trauma.

Because of the hazards of snapping twigs and from the smoke and sparks of a wood fire, the forest Indians tend to have a higher incidence of trauma to the eye than the Eskimos of the tundra. Both groups show increased eye trauma as a result of misuse of alcohol.

The incidence of cataracts appears to be increasing, perhaps as a result of dietary changes. Ocular tuberculosis, once a serious cause of blindness, is now definitely on the decline. Myopia, once rather rare among northern Natives, is now becoming a major problem in school children. Again dietary factors have been implicated, particularly the change from high protein, low carbohydrate, to one with low protein and high carbohydrate.

Glaucoma is becoming more noticeable, particularly in families with mixed blood. Strabismus is felt by the author to be largely the result of racial admixture.

Adams, S.T.

Arctic ophthalmological survey, 1970-71 — The Government of Canada and Canadian Universities. *Can. J. Ophthal. 8:* 218-225, 1973.

Efforts to develop a program for the diagnosis and treatment of eye problems in the north go back to the early 1940s in Alaska and Canada. In 1957, Dr. Cass was appointed area ophthalmologist to the Northern Region. The Canadian Ophthalmological Society formed an Advisory Committee on Indians and Eskimos in 1964 and in 1967 asked several of its members to work with the government toward a better eye program. In the fall of 1970 The Northern Region Headquarters of the Department of National Health and Welfare decided to organize a major survey of needs in the north and called upon representatives of the Universities of British Columbia, Alberta, Manitoba, and McGill.

Using a specially-developed form for history and physical (reproduced in full in the paper), surveyors visited 16 northern settlements from the eastern Arctic to the Yukon Territory. A total of 4,450 people were examined 64 per cent of them under 20 years of age. The vast wealth of data was then sent to the U.B.C. for computer analysis.

Wyatt, H.T.; Boyd, T.A.S.

Strabismus and strabismic amblyopia in Northern Canada. *Canad. J. Ophthal. 8:* 244-251, 1973.

This paper discusses the results of the Arctic Ophthalmologic Survey with respect to strabismus and its complications. The authors are with the University of Alberta in Edmonton.

A total population of 4,450 persons were examined for these conditions. No significant differences were found between the racial groups (Eskimo, Indian, White), or between the sexes. The prevalence of convergent strabismus showed no significant differences by decade, whereas the prevalence of divergent strabismus was significantly greater in the second than in the first 10 years of life. Amblyopia was of minor concern. Only 0.05 per cent of the sample had severe strabismic amblyopia and 0.07 per cent had it in moderate degree. Among the convergent squinters, 85 per cent had visual acuity in the worst eye of at least 20/70.

In comparison to a similar survey taken in an urban Danish community, it was found that the ratio of convergent to divergent strabismus in the Canadian survey was 0.62, as opposed to 4.3 in Denmark. The difference was largely attributable to a much higher prevalence of convergent strabismus in the Danish population.

Morgan, R.W.; Munro, M.

Refractive Problems in northern Natives. *Canad. J. Ophthal. 8:* 226-228, 1973.

This paper describes the findings in the survey with respect to refractive errors among Indians and Eskimos. All examinations were done under standard conditions, using retinoscopy after cyclopegia. The author is with the Department of Preventive Medicine at the University of Toronto.

A marked and statistically significant racial difference in the prevalence as astigmatism was noted between the Indian and Eskimo groups studied. Nearly three-fourths of Indians examined had some degree of astigmatism,largely in the mild to moderate range, while the comparable figure for Eskimos was less than 40 per cent. There was no marked change with age, nor difference by sex.

Myopia was noted to be a significant problem, in fact, an "epidemic," in both groups. A striking increase in the prevalence of this condition was noted for the younger generation, with a peak prevalence in the 15-25 age group. Since a chronic non-fatal condition should not show a decline with age, it is suggested that etiological factors may have changed in the past generation. Of eight possible theories listed, either a dietary change or some genetic change (hybridization or natural selection) seem to be the most likely explanations. It is unclear whether a protective factor has been lost or a virulent factor introduced, but it appears that myopia may be to some degree preventable. A major program implication is that because of the increased prevalence in the young today, the older generation in the future will have a greater demand for glasses.

Grant, D.; Wyatt, H.T.

Spectacle frame breakage in northern Canada.*Canad. J. Ophthal. 8:* 241-243, 1973.

The results of 100 consecutive pairs of glasses sent in from the north for repair are examined in this paper. Of the total, 17 per cent of breaks were in the temple pieces, 34 per cent were breakages around the hinges, 22 per cent were in the nasal bridge piece and 15 per cent were in the lens rims. Twelve per cent of breakages were in the lens itself.

The glasses were rendered unusable and irreparable in 83 per cent of the cases. Many ingenious attempts at repair had been made.

In a test, standard plastic-rimmed glasses were exposed to the extremely cold air above the surface of liquid nitrogen. Some two-thirds of the glasses tested broke spontaneously. In those frames with glass lenses, the lens rim just below the nose pad broke in 10 out of 14 cases. The breakage here with plastic lenses was nil, suggesting that the differential contraction of glass and plastic may be responsible for some breakage.

Another factor of concern was the poor fit of conventional frames on the wide, flat faces of the Eskimos, causing undue strain on the glasses frames.

It is felt that a more durable, better fitting frame could be specially designed for use in the north.

Clemmensen, V.

Ophthalmic care in Greenland. *Canad. J. Ophthal. 8:* 234-240, 1973.

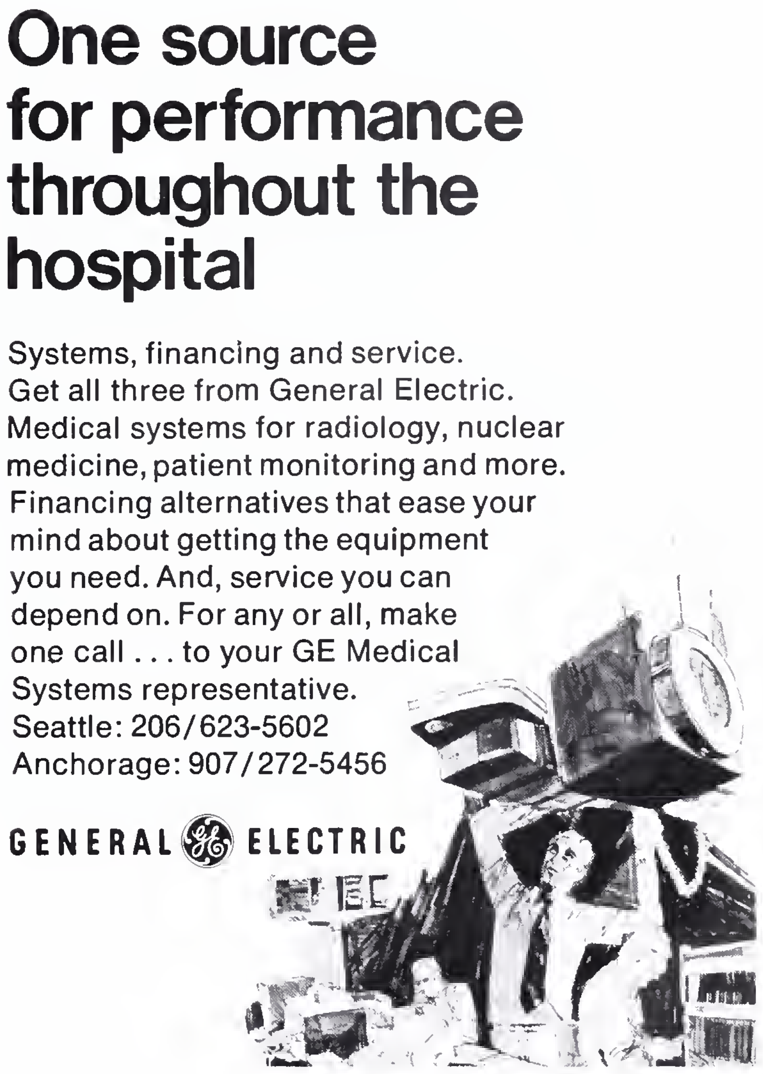
This paper describes some of the eye problems encountered among the population of Greenland and how ophthalmic services are organized in that region. The author is an ophthalmologist with the Central Hospital, Naestved, Denmark.

Most available information on eye problems in Greenland has been collected somewhat haphazardly, but it is apparent that the patterns of morbidity are changing. In the past, snow blindness and pterygium were exceptionally common and are still widely seen. Epidemic conjunctivitis, blepharitis, and lachrymal diseases, as well as phlyctenular ophthalmia, were formerly much more prevalent than they are today. The latter disease alone made up 39 per cent of ophthalmic practice in 1948, compared with a mere 0.8 per cent today.

Corneal astigmatism is very common, especially inverse astigmatism, which makes refraction long and strenuous.

Angle-closure glaucoma has become much more frequent in the past five years, apparently largely attributable to an increase in the average duration of life of most Greenlanders.

All Greenlanders have free medical and dental care, except for the purchase of eyeglasses, which for adults must be paid out of pocket by the patient. There is no resident ophthalmologist in Greenland, all such care being provided either by specialists visiting towns and villages from Denmark or by local general practitioners. Patients with complicated eye problems are sent out to Denmark for care. In 1971, 53 eye patients were sent out, some 16 per cent of all medical evacuations. In recent years optometrists have been sent out to relieve the physicians of much of the routine and time-consuming refraction work.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Whaling festival at Point Hope.
— *Frederick Hillman, M.D.*

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PSRO - CHICKEN LITTLE WAS RIGHT

J. Paul Dittrich, M.D.

Section 249F of H. R. 1, relating to Professional Standards Review Organization was passed by the House and Senate on October 17, 1972 and became Public Law 92-603 when signed by President Nixon on October 30, 1972. Since that time, the law has been the subject of much discussion and debate, and has been widely discussed, seldom understood and rarely read.

Like many others, my knowledge of PSRO had been a very hazy picture composed of bits and pieces gleaned from the various medical and semi-medical periodicals which came my way. This picture was completely exploded one day when I obtained a copy of the law and read it. I was dumbfounded. Many of the key points of the law had never been discussed at all, and many that were discussed had not been clearly explained. Several aspects merit further discussion.

I had been under the impression that the law had placed a great burden of responsibility for establishment of PSRO units upon the medical profession, and that the huge federal eagle would swoop low and dump upon those failing to do so. Definitely not true. The law clearly states that the Secretary of Health, Education and Welfare alone has the responsibility of establishing PSRO units, makes no mention of any catastrophic events that will befall physicians failing to do so, and more importantly, outlines no benefits whatsoever that will accrue to them for doing so.

The law states that the Secretary must designate a PSRO unit for each PSRO area by January 1, 1976. Two types of PSRO units are defined in the law. The first is a non-profit professional corporation composed of physicians within each PSRO unit, who may, if they so desire, form such a corporation, establish prescribed guidelines, and apply to the Secretary for designation as the PSRO for their area. Failing establishment of such a corporation by the physicians, then the Secretary must enter into an agreement with the second type, which is "another public, non-profit private, or other agency or organization" to perform this function. Nowhere in the law is it stated that the physician organized PSRO will be allowed any more freedom of action, will be allowed more latitude in its determinations, or will operate under less restrictive guidelines than the non-physician run PSRO. Yet, the delusion has been fostered that somehow the Secretary will smile down paternally on physician activities under a physician organized PSRO, and frown menacingly on such activities under a non-physician one, and anyone believing this must likewise have a devout and unshakable belief in the existence of the Tooth Fairy and Mother Goose. The guidelines for review under each type will be the same, and paradoxically, the law further states that only physicians having active hospital staff privileges in the area may do the actual reviewing, regardless of the type of PSRO. It would pose an interesting dilemma to the Secretary if every such physician would decline service as a PSRO reviewer.

The law prohibits the Secretary from designating a non-physician organized group, such as an insurance company, as the PSRO before January 1, 1976, and further forbids him to renew the contract with that type of organization after that date if the physicians decide to form one of their own. This would appear to be a significant stimulus to a non-physician PSRO to operate a fair and reasonable review mechanism, since they could be replaced at any time by a physician organized PSRO.

Suite 109, Providence Professional Building, 3300 Providence Drive, Anchorage, Alaska 99504.

The law as written is very vague regarding the day to day application to individual cases. It contains no specific provisions for review of actual cases, but leaves such details largely to the discretion of the Secretary. Such phrases as "if the Secretary finds," "in accordance with regulations of the Secretary" and "as determined by the Secretary" appear a total of 34 times in the law. This gives the Secretary a great deal of leeway in prescribing guidelines and gives him the authority to make drastic changes in the application of the law without seeking prior approval or advice. He has already attempted to require, by regulation, pre-admission certification of all Medicare and Medicaid hospital admissions, and withdrew that ruling only under the threat of revolt and court action by organized medicine. Issuance of such onerous regulations will be considerably easier after PSRO's are established and functioning.

The PSRO law appears to be a completely unworkable law that will not improve the quality of medical care and has, at best, a slim chance of reducing its cost. It will not separate the incompetent from the competent physician (an ill defined paper distinction used with great delight by Senator Kennedy, Caspar Wineburger, the Ladies' Home Journal and others of such ilk), but it most assuredly will place an added burden on the legitimate and honest activities of thousands of dedicated physicians. The doctor whose primary objective is his own personal gain, monetary or otherwise (and no one would deny their presence in our midst), will continue to function, perhaps even flourish within this system, umbrellaed by the guidelines and finding small loopholes to expand his activities. On the other hand, the competent dedicated physician, hampered by ever narrowing guidelines will be forced to explain each deviation from these guidelines, brilliant and effective though they may be, and soon will stop making such excursions because of the reaction they trigger. American medicine will settle into a complacent mandated mediocrity, surrounded by the protective fencing of PSRO regulations and guidelines and dedicated to the proposition that all men must be treated "in accordance with regulations prescribed by the Secretary."

The inherent unworkability of the law should be apparent to anyone studying it, and at best it will be doomed to prolonged chaotic struggle as a bureaucratic nightmare. It will prove a very divisive force to organized medicine. Even in the best of circumstances, honest and sincere differences of judgment regarding methods of treatment are common. Witness the clinical medical meeting. Each case presented engenders several different methods of treatment, each adamantly defended by honest capable physicians, thus showing that there are many different ways of successfully treating the same condition. Will this latitude of equally effective methods be allowed under the Secretary's guidelines? I don't know. No one knows, and this is a major factor in urging rejection of the law. The list of specific objectionable points in the law goes on and on, and are readily apparent to even the casual reader.

Several years ago, when federal programs such as Social Security, Medicare, Medicaid and various other government financed medical schemes were proposed, there were generally opposed by the medical community. Because of such opposition, we were labeled as obstructionists, money hungry, and unsympathetic to the needs of the elderly, the poor and others who were "denied good medical care."[1] Our opposition to these federal programs was based, not on our lack of concern for others, but rather on the certain realization that after government financing must inevitably follow government control. Government control, based not on "how good is it?" but on "how much does it cost?", asking not "what is best for this patient?", but rather "what is best (or cheapest) for most patients?". The certain realization in years past that a PSRO type program would appear in the future was our major reason for opposing federal health programs in the past, yet now, when they do appear, we rush to embrace them. Now is the time when we should be increasing our opposition, to point out to the public the deleterious effects to them of the PSRO law, that the professional judgment of their physician regarding their care will be replaced by a bureaucratic interpretation of PSRO guidelines "as prescribed by the Secretary." The bear has danced, and now 'tis time to pay the fiddler. The payment, unfortunately, will be in the form of a carefully regimented readymade level of care, similar to a suit of readymade clothes, taken off the rack and put on the patient. It might not fit exactly, the color might not be quite right and it might not be exactly the right style, but it's pretty close, and most important, it is well within the guidelines "as prescribed by the Secretary."

It must be extremely difficult for nonmedical people to understand the physician's opposition to federal intervention in medicine. Why do we view this as such an evil? I think this aversion develops during the time spent in various city, county and federal hospitals during a physician's training. Each doctor spends a great deal of time during his training in such government institutions, and has an opportunity to observe firsthand the impersonal dehumanizing atmosphere characterized by the patients being lowest on the priority list. This atmosphere is as much a hallmark of these institutions as the picture of the President in the lobby. Witness our own Alaska Native Hospital. Near the end of the fiscal year, when the money is running low and something must give, what happens? Do they lay off a few bureaucrats, social workers, recreation directors, etc.? They do not. They cancel elective surgery and elective admissions. The very reason for the hospital's existence, patient care, is the first thing to go in a bind.[2] This is a simple statement of fact, it is not made with ill feeling or hostility, but is simply a description of a dominant feature inherent in the federal beast. It is a definite feature which private medicine can continue to function without, thank you. This would appear to be the type of public information campaign that should be vigorously mounted by the AMA and State societies, rather than the hesitant and tacit approval with which we are now burdened.

---

[1] Another pet phrase of the Kennedy-Wineburger-Ladies' Home Journal mentality.

On the practical level, proponents of the physicians forming and operating the PSRO state that this is the law of the land and we should cooperate with it and set this up ourselves, laboring under the delusion that it will somehow be better if we do it than if they do it, which is tantamount to saying that the doomed man in the electric chair doesn't feel the jolt quite so much if he is allowed to pull the switch himself. What will happen if we refuse to set up a PSRO? I honestly don't know. I have asked this question of various government and AMA officials, and they likewise state they honestly don't know. What the eventual status will be after the dust settles is anyone's guess. But I do know this. Federal bureaucracy is totally incapable of setting up and administering PSRO programs without a great deal of input and backing from private physicians. More important, they are afraid to try without the input and backing of the physicians. For PSRO involves a great deal more than a simple dispute over how much Aetna will pay for Grandma's hip surgery. The PSRO will decide if Grandma really needs hip surgery, what kind, how long she can stay in the hospital, what type of nursing home she goes to, what laboratory tests and x-rays she needs, etc. Such decisions are far above the intellectual capabilities and levels of intestinal fortitude found in the garden variety bureaucrat. The public, when confronted with the day-to-day realities of this situation will understandably react unfavorably. This hostility will naturally be directed primarily at the PSRO, which if physician-run, will be transmitted to the medical profession. If, however, the PSRO is run by the Secretary, without physician participation and endorsement, such hostility would be directed at the government, and hopefully would generate sufficient congressional pressure to permit repeal. Would this actually happen? I don't know. But of utmost importance, it would appear that we have absolutely nothing to lose by trying. If it does not work, we simply organize our own PSRO two or three years from now, and by law, the Secretary must accept it.

It should be pointed out that we would not be unique in acting in this manner. Several states and designated PSRO areas throughout the country have refused to take any action regarding PSRO.

The law states that the Secretary must give notice to the physicians of his intended designation of any organization as a PSRO before January 1, 1976. If 10 percent of the physicians served by that PSRO object in writing to the Secretary to such a designation, he must conduct a poll of all physicians in the area, and if 50 percent object he may not proceed with such designation. I would invite any physician to submit such an objection at the appropriate time if he objects to forming a PSRO. This should be viewed not as a technical obstruction, but simply as a means of triggering a poll of all physicians so PSRO, if accepted, will be done so by a majority of Alaskan physicians and not by an active and vocal minority.

MUSCULAR DYSTROPHY CLINIC

Muscular Dystrophy Associations of America, Inc. will conduct a Muscular Dystrophy Clinic on November 15 and 16 at the Alaska Treatment Center in Anchorage. Dr. Morris Horning, Director, M.D.A.A. Clinic, Children's Orthopedic Hospital and Medical Center in Seattle, will be in attendance at this initial MD Clinic in Alaska. The Clinic will offer free diagnostic services and therapeutic and rehabilitative follow up care, social service counseling, and CPK serum enzyme testing, to referred patients and their families. Dr. Horning will also speak on identification and treatment of MD patients at an evening informal gathering on November 14. The reception following will give those attending an opportunity to meet this notable physician, and talk shop.

Of special interest to the professional media: an MDAA Film "Needle Biopsy" can be seen at the Alaska Treatment Center during the regular hours of the MD Clinic. It is also available for showing during classes, or other instructional functions by calling 279-7427.

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[2] Heated letters of reply from my friends at ANS, submitted in triplicate and with prior approval by the Secretary, either denying or justifying this allegation may be addressed to the author at: 3300 Providence Drive, Suite 109, Anchorage, Alaska 99504.

PSRO--A POSITIVE POINT OF VIEW

Glenn B. Crawford, M.D.

Many of the reservations and anxieties surrounding the implementation of Professional Standards Review are most correctly related to concern over progressive federalism. Inability to recognize this fact and relate it to the social inevitability of increasing national control at the expense of individuality distorts acceptance of what may be advantageous in PSRO and invalidates much of the criticism directed toward its implementation.

Initially, Professional Standards Review must concern itself with the hospital and institutional care of beneficiaries of the Social Security programs encompassed by Title V (Maternal and Child Health), Title XVIII (Medicare) and Title XIX (Medicaid). Reviews must be conducted concurrent with the patient's care in such a way as to determine compatibility with accepted norms or criteria of medical care. To determine whether the reason for hospital admission and the subsequent length of stay are compatible with the patient's problem or diagnosis, criteria and standards for each possible diagnosis must be developed. Data must then be maintained on each patient and provider (both physician and institutional) to be tested against the adopted criteria. It is anticipated that the results will demonstrate which providers are not performing to expectations, to whom additional medical education should be directed and which standards or criteria need modification. The underlying implications of PSRO are that quality is related to appropriateness and efficiency, which if rigidly defined will result in substantial cost savings. However, the most conservative estimates place the cost of accomplishing reviews at $16.00 per admission. In this context the implication that PSRO will reduce the cost of medical care by assuring appropriateness and efficiency is absurd.

Since it is generally acknowledged that PSRO is primarily concerned with controlling cost, while maintaining the facade of assuring quality, it appears to be essentially another bureaucratic endeavor to correct a conceptual defect in the Medicare legislation. The statutory provision to audit and pay the hospital and long-term care institution their cost in providing care to Medicare patients effectively destroyed many of the incentives to contain or reduce cost and virtually eliminated the competitive benefits of supply and demand as a controlling influence in the delivery of medical care. After providing assurance of payment of capital and current expenses it was recognized that some form of containment had to be reinstated and imposed on the institutional providers, hence CHP review and concurrence is required for capital expansion and initiation of new services. PSRO can be viewed as another effort to achieve control as it relates to individual patient care and may be nothing more than an expensive effort to compensate for the lack of checks and balances inherent in at least a modified supply and demand economy.

Clearly, from the standpoint of reducing cost, PSRO is not defensible. However, other criticisms more loudly advanced and espoused by physicians are not so easily substantiated. Among them is the claim that PSRO will restrain and even destroy physician individuality, or perhaps better, interfere with the necessity for a particular individualized approach to a patient. Despite this claim, physician individuality is a questionable concept. For years physicians have sanctioned the original efforts of the College of Surgeons and now the Joint Commission on Accreditation to impose a peer review and criticism mechanism. If not enthusiastically, they have at least graciously embraced the desirability and necessity for medical record committees, tissue committees, medical audit committees and administrative staff structures which assure the delivery of standardized care and satisfy the inner urge of doctors as all others to comply with the status quo and to achieve acceptability in their professional relationships. Joint Commission regimentation is far more stringent and rigid than any requirements presently implied in PSRO.

A myth fondly embraced by Alaskans in all professions and occupations is that of Alaska's unique characteristics which are incompatible with many federal programs. In the medical

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213 W. Fireweed Lane, Anchorage, Alaska 99503.

profession, great geographical distances, inadequate transportation and communications systems and the prevalence of small, isolated hospitals are frequently cited. However, these are not particularly unique. In reality Alaska probably has fewer one and two doctor hospitals than most states. It also provides a higher level of medical care than many other comparable population groups in the United States. There are probably more former professors and academicians in our medical community than most. We have essentially no institutions or professional providers that are a source of shame or embarrassment. Thus, the ability of Alaskans to comply with nationally adopted criteria or standards of care should be of no concern, and certainly the fear that Alaska may have difficulty in complying with PSRO is unjustified.

Another myth which physicians and the American Medical Association vigorously support is that of confidentiality. PSRO, it is claimed, will result in a breach of confidentiality because it requires that information be accumulated for physician-provider and institutional-provider profiles. The proposed national guidelines stipulate that individual patient and physician information be indexed by social security number. The use of this well-known identification code will provide easy and direct access to information on any individual whether he be a physician or a patient. What must be recognized, however, is that the breach in maintenance of confidentiality, not only in medicine but in politics and finance, has long since been accomplished and has become, if not accepted, at least an established necessity in our society. As an example, before hospital or physician payment is made, Medicare recipients sign a claim form authorizing the release of medical information to the program managers. Similarly, in the Alaska Medicaid program, a medical information release is incorporated in the coupon that the recipient signs and presents in exchange for medical care. The use of the medical release clause and signing of preprinted forms is a common and accepted part of medical practice. Even without formal release, a large body of medical information is freely exchanged between physicians and hospitals. This free flow of information is vital and beneficial to the patient. While the necessity for access to this information by various third party payers is questionable, it too is an established practice. In retrospect, the argument that PSRO is a further encroachment on the patient's right to maintain a secret and unique relationship with his physician is of doubtful validity. If we are truly concerned that individual rights are in jeopardy, we must launch a much stronger attack on the multiple sources of the problem. To single out PSRO is to misdirect our efforts.

While many criticism have been leveled at PSRO, several of its positive aspects have not been given adequate attention. Most doctors are painfully aware that many decisions regarding the appropriateness of care are being made thousands of miles away from the patient with the benefit of that traditional CPC instrument, the retrospectoscope. With PSRO, however, decisions regarding the necessity for medical care will be made at the bedside by concerned and informed physicians. This in itself constitutes a strong argument for its support.

Utilization Review has been a continual source of annoyance to physicians. The constant changing of vague regulations for case selection, record keeping, general lack of direction and confused administrative support has virtually reduced U. R. committee activity to an exercise in futility. Committee appointment could be considered punishment for infraction of staff rules governing completion of charts. PSRO has the potential to eliminate some of this frustration by clearly defining case selection and intervals for review. More importantly, using easily interpreted norms or standards of care, a nurse or other non-physician can complete the review and record keeping in nearly all cases. The physician committee will be concerned with the acceptability of extenuating circumstances for those patients who do not fall within the norms. The national cost implications of PSRO virtually assure the acceptance of broad, locally established current standards of care. The present PSRO budget for planning professional review activities and the experimental adoption of these activities in a few isolated areas is 58 million dollars. The expense of developing and maintaining an operational PSRO program will be many times 58 million. A further increase in expense can be controlled by establishing norms which assure that at least 95 percent of the cases do not require additional review or appeal.

The most apparent punitive aspect of PSRO is that the institution may be denied payment for an inappropriate patient stay. With this rather powerful incentive, physicians, while remaining in control of a Professional Review Organization, should receive unlimited support from the various institutional administrators in their efforts to comply with the law.

Since there is no indication that serious consideration is being given to altering the concept of institutional cost reimbursement in either the present Medicaid/Medicare programs or in future National Health Insurance, PSRO or a similar effort at control is inevitable. The present Professional Standards Review Law has the advantage of intimately involving physicians in decisions directly related to patient care while assuring staff support for many routine chores of review and record keeping. These advantages should not be sacrificed, particularly since many of the most frequently voiced objections to PSRO lack the substance to withstand thoughtful scrutiny.

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BUSINESS

JOY DONELSON, R.PH.

He a Source of Information?

Yes, with certain reservations.
e average sales representative
s a great fund of information
out the drug products he is re-
onsible for. He is usually able to
swer most questions fully and
elligently. He can also supply
prints of articles that contain a
eat deal of information. Here,
o, I exercise some caution. I usu-
y accept most of the statements
d opinions that I find in the
pers and studies which come
m the larger teaching facilities.
goes without saying that a physi-
an should also rely on other
urces for his information on
armacology.

aining of Sales Representatives

Ideally, a candidate for the
sition as a sales representative
a pharmaceutical company
ould be a graduate pharmacist
o has a questioning mind. I don't
ink this is possible in every case,
d so it becomes the responsibility of the pharmaceutical company to train these individuals comprehensively. It is of very great importance that the detail man's knowledge of the product he represents be constantly reviewed as well as updated. This phase of the sales representative's education should be a major responsibility of the medical department of the pharmaceutical company.

I am certain that most of these companies take special care to give their detail men a great deal of information about the products they produce — information about indications, contraindications, side effects and precautions. Yet, although most of the detail men are well informed, some, unfortunately, are not. It might be helpful if sales representatives were reassessed every few years to determine whether or not they are able to fulfill their important function. Incidentally, I feel the same way about periodic assessments of everyone in the health care field, whether they be general practitioners, surgeons or salesmen.

Value of Sampling

I personally am in favor of limited sampling. I do not use sampling in order to perform clinical testing of a drug. I feel that drug testing should rightly be left to the pharmacology researcher and to the large teaching institutions where such testing can be done in a controlled environment.

I do not use samples as a "starter dose" for my patients. I do, however, find samples of drugs to be of value in that they permit me to see what the particular medication looks like. I get to see the various forms of the particular medication at first hand, and if it is in a liquid form I take the time to taste it. In that way I am able to give my patients more complete information about the particular medications that I prescribe for them.

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apacity they are indeed useful;
articularly in the fact that they
sseminate broadly based educa-
onal material and serve not just
s "pushers" of their drugs.

e Other Side of the Coin

Obviously, the pharmaceuti-
l companies are not producing all
is material as a labor of love —
ey are in the business of selling
roducts for profit. In this regard
e ambitious and improperly moti-
ated sales representative can
xert a negative influence on the
racticing physician, both by pre-
enting a one-sided picture of his
roduct, and by encouraging the
ractitioner to depend too heavily
n drugs for his total therapy. In
ese ways, the salesman has often
istorted objective reality and
ndermined his potential role as an
ducator.

he Industry Responsibility

Since the detail man must be
n information resource as well as
representative of his particular
harmaceutical company, he
hould be carefully selected and thoroughly trained. That training, perforce, must be an ongoing one. There must be a continuing battle within and with the pharmaceutical industry for high quality not only in the selection and training of its sales representatives, but also in the development of all of its promotional and educational material.

The industry must be ready to accept constructive as well as corrective criticism from experts in the field and consumer spokesmen, and be willing to accept independent peer review. The better educated and prepared the salesman is, the more medically accurate his materials, the better off the pharmaceutical industry, health professionals and the public—*i.e.*, the patients — will be.

Physician Responsibility

The practicing physician is in constant need of up-dated information on therapeutics, including drugs. He should and does make use of drug information and answers to specific questions supplied by the pharmaceutical representative. However, that information must not be his main source of continuing education. The practitioner must keep up with what is current by making use of scientific journals, refresher courses, and information received at scientific meetings.

The practicing physician not only has the right, but has the responsibility to demand that the pharmaceutical company and its representatives supply a high level of valid and useful information. I feel certain that if such a high level is demanded by the physician as well as the public, this demand will be met by an alert and concerned pharmaceutical industry.

From my experience, my impression is that sectors of the pharmaceutical industry are indeed ethical. I challenge the industry as a whole to live up to that word in its finest sense.

Pharmaceutical
Manufacturers Association
1155 Fifteenth Street, N.W.
Washington, D.C. 20005

P·M·A

CHILD ABUSE AND NEGLECT IN ALASKA

George Brown, M.D.*
Jeanne Wolf, PHN*
Barbara Ure, M.D., FAPA*
Harvy Zartman, M.D., FAAP**
Betty Davis, MSW, ACSW***

BACKGROUND

Carl Holiday writing in 1922 in his book, *Woman's Life in Colonial Boston*, recalls the following experience: "After they had supped, the mother put two children to bed in the room where they themselves did lie, and they went out to visit a neighbor. When they returned the mother went to the bed and not finding her youngest child, a daughter of about 5 year of age, and after much search she found it drowned in a well in her cellar."[1] The matter of accidents and mistreatment of children is not to be taken lightly. In it lies hidden the clue as to why adults in the past and still today have been such poor parents.[5]

It is not unreasonable, in light of recent historical research about children of Caucasian heritage, to argue that identification of the battered child syndrome by Caffey, Kempe and Silver in the late 1940's and 1950's actually signifies progress in adult perception and handling of childhood needs.[2,3,4,5] Indeed, awareness that several states are in 1974 considering the addition of psychological abuse as part of their state child protection statutes supports arguments that treatment of children is rapidly improving compared to as little as 100 years up to thousands of years ago.[6]

The American Humane Association's Children's Division in 1970 emphasized that while more than 25,000 children are reported annually abused physically in the U. S., 25,000-50,000 are reported sexually abused and more than 100,000 are reported seriously emotionally abused annually in our nation. Death rates from child abuse and neglect in the U. S. are not accurately known. Kempe and co-workers have stated more than 3 children die daily in the cities of New York and Chicago from child abuse.[3] Others have estimated that child abuse ranks as the leading cause of death among children from 6 months to 3 years in the U. S.[7] Increased childhood deaths due to preventable causes in the U. S. suggest that technology and life styles may be causing an increase in violent abuse of our children. The only 2 causes of death among children in the U. S. which showed an increased rate from 1955 to 1965 were motor vehicle accidents and homicide.[8]

Abuse and neglect are now appreciated as broad, multifactorial problems, causing far more injury to our children than the infant-oriented battered baby syndrome. While child abuse deaths occur more frequently among smaller children (65% of reported deaths occur in children under 3 years of age), death, permanent physical injury, and serious emotional disruption are dealt to children of all ages.[9]

Reporting of child abuse and neglect began to be effective in Alaska in 1971. Abuse was clearly known earlier and cases were reported by Brenneman in 1968. [10] During the first full year of reporting, FY 1972, Alaska's physical abuse rate was 48/100,000 children under 16 years. This was higher than any of the other 49 states for which the highest reported rate was 40/100,000 children. Since 1973 Alaska has reported higher rates of physical abuse. From January through June 1973, the last analyzed period, the rate of documented physical abuse was 60/100,000. Reports of abuse and neglect together during that same period showed a rate of 440/100,000. New York City reported abuse and neglect at a rate of 480/100,000 from 1970-1972. Deaths due to abuse and neglect in Alaska are less accurately reported. Analysis of death certificates for children under 5 years of age in Alaska from 1968 through 1971 suggests death from probable abuse or neglect at a rate of 47/100,000 children under 16 years of age.[11]

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* Members of Anchorage Child Abuse Board, Inc.
** Private Practice of Pediatrics in Anchorage
***Supervisor, Anchorage Child Protection Unit of Division of Family and Children's Services

PATTERNS OF ABUSE

Professionals working with abuse and neglect in Alaska encompass cases ranging in severity from death and permanent injury to severe psychological battering.

Case 1. S. M. A 2-year-old male was taken to a local medical clinic and pronounced dead on arrival. Investigators described the body as almost covered with lacerations and contusions. The left arm was swollen with an old infected wrist fracture. The occipital scalp had a deep laceration. Toes, legs and inguinal areas had multiple burns bilaterally. The father reported that the boy's mother had been mistreating him for about 2 months. She thought the boy was mentally retarded and could not be toilet trained. The mother was charged with first degree murder and father with negligent homicide.

Case 2. G. C. A 4½-year-old female received multiple professional team evaluation at request of State Division of Family and Children's Services. She was in foster placement since 2 years when abandoned by her 15-year-old mother. Father was witnessed to be repeatedly abusive to mother and the child by beating with a heavy belt, smearing feces in her face for toilet training and suspected sexual molestation. Father was imprisoned for homicide (of an adult) shortly before the child was abandoned. Mother later relinquished her parental rights. The child was difficult to manage in two foster homes but by 3½ years began to show emotional recovery. In the third foster home the child gained from the 25th to the 70th percentiles in height. Problems of bed wetting, grinding of teeth, and cruelty to children and animals subsided. Father contested the state's petition for termination of his parental right. Prolonged hearings, with several professional witnesses supporting the State's case, resulted in termination of the father's rights and the child's subsequent adoption by her third foster parents. As of June 1974 (6 years old), this girl is thriving well emotionally and physically.

Case 3. S. T. A 2½-year-old female was admitted to a university child development center under auspices of the state Crippled Children's Services program for ruling out possible organic causes of severe developmental delay and failure to thrive. She had lived in several foster homes since birth and was adopted, against medical advice, at 1 year by her third foster parents. There were clear signs of over-expectation by these parents. Examination revealed a very small, non-verbal girl with searching, distrustful appearing eyes and some autistic-like behavior. Height and weight were below the 3rd percentile and head circumference was just below 2nd percentile. General examination revealed a high-arched palate, small umbilical hernia, hyper-extensible joints, and a healing diaper rash. Neurological examination revealed mild hypotonia, overactive deep tendon reflexes and intermittent cortical thumb posturing. Laboratory, radiologic, genetic, endocrine, and neurological evaluations revealed no organic cause for developmental delay. The child began to thrive by some weight gain and learning of words after 3 weeks in the university hospital. Recommendations of day care and psychiatric counseling were steadfastly refused by the first adoptive parents. Repeated home visits and phone contacts were provided by PHN and pediatrician. Nearly one year after the university evaluation parental relinquishment was voluntarily sought by these adoptive parents. At that point the child's height and weight were both well below the 3rd percentiles. Only a few words had been learned and walking was unsteady, requiring intermittent assistance. After 5 months in a carefully selected foster home with peers of similar age she gained 2½ inches (to 3rd percentile) and 7 pounds (to 10th percentile). Permanent adoptive placement was made 1 month later. By 4½ years of age this girl was at 10th percentile for height, weight, and head circumference and scored normally on all parts of Denver Developmental Screening Test.

COMMENTS

These cases represent the wide scope of child abuse which ranges from death, to subtle, persistent emotional rejection.

Case 1 occurred before Alaska's Child Protection statute removed child abuse from the criminal code. Children are now legally protected under the civil code. This change could have precluded the first degree murder and negligent homicide charges. The harshness of these charges was negated by the relatively quick release of the mother on probation so that she could be home with her other children.

Case 2 demonstrates that Alaska children can be protected and removed from physically abusive and inadequate parents, under current statutes. The most unfortunate circumstance of this case is that it took a murder to bring effective child protective services to bear. Once social service and health professionals combined in concerted effort, a safe, nurturing, permanent home was provided for this child.

Case 3 was evaluated and managed by many professionals, still the outcome remained in serious doubt for 2 years. No clear physical abuse could be documented, therefore no legal grounds were seen for protective action. Persistent, but non-threatening, professional contacts with the first adoptive parents conveyed clear community concern that the child's needs were not being met. Such clear and direct communication successfully terminated a miserable situation for both the adoptive parents and the child. This result is generally applicable, for when individual parents receive the message that it is acceptable to be angry with a child or to have feelings of rejection, while the community sees continued anger and rejection which leads to physical abuse and neglect as signs for intervention, they become receptive to both child protection and parent support activities.

DEFINITIONS

The Alaska Child Protection statute (AS 47. 17.010-070 and AS 47.10.142) defines neglect as: "the failure to provide necessary food, care, clothing, shelter, or medical attention for a child." Many professionals view neglect as a broken household with only one or changing parent figures, who are unemployed, on welfare, prolifically produce children, and allow these children to run free through dangerous streets and ghettoes. Such children frequent hospital emergency wards with fractures, burns, lacerations, infectious diseases, malnutrition, plumbism and other preventable illnesses. Abuse has been traditionally reported more frequently among minority, low income populations. Experience in U. S. metropolitan centers has shown abuse to occur in all ethnic, social, and economic groups.[12] There is no definition for emotional neglect or abuse in the Alaska statute. Abuse in the statute means: "the affliction by other than accidental means of physical harm upon the body of a child." A child is "a person under 16 years of age." The key meaning is "active infliction" of injury, or "non-accidental infliction." Dr. Henry Silver and Dr. Henry Kempe have stressed that maternal deprivation of children, with so-called "failure to thrive" due to ineffective parenting or outright rejection, is equally abusive as physical injury.

Various pediatric centers in the U. S. have described a profile of abusing families. Usually the parents suffered abuse as children. Usually the abused child is seen as particularly hard to raise, a "bad seed" or has a special need such as a birth defect, a chronic illness or handicap, or was adopted. A recent stress has occurred to upset a precarious family balance. The fourth characteristic is that the family lacks a "lifeline", a contact within the community to which they can reach out with trust and expect help in time of crisis. Over 90 per cent of parents who abused their children in Denver were found to have no significant psychopathology.[11]

Abuse takes multiple forms. Cigarette burns are common. Multiple bruises of the face, neck, back, areas not appropriate for spanking, are frequent. During infancy subdural hemorrhage is a common sign of battering. Dr. Caffey has stressed the danger of the practice of vigorously shaking infants.[2] Ruptured viscera, such as spleen, stomach, intestine, or liver, are serious and often fatal injuries from battering. Height, weight, and head circumference growth delay should suggest maternal deprivation.[4]

Various key factors in clinical evaluation should prompt consideration of abuse. Grantmyre listed 11 key factors suggestive of abuse.[13] These are shown in Table 1.

TABLE 1
SYMPTOMS AND SIGNS OF CHILD ABUSE

WHEN THE PARENT

1. Presents contradictory history.
2. Has unduly delayed bringing child in.
3. Is reluctant to give information.
4. Projects cause of injury to sibling or 3rd party.
5. Gives history that fails to explain injury.
6. Has been reared in "motherless" atmosphere.
7. Has unrealistic expectations of child.

WHEN THE CHILD

1. Has an unexplained injury.
2. Shows poor overall care.
3. Is unduly fearful.
4. Shows signs of repeated injury.
5. Is seen as "different or bad" by parents.
6. Has x-ray signs of fractures in various stages of healing.

LOCAL RESPONSE OF ABUSE AND NEGLECT NEEDS

Once abuse and serious neglect are properly diagnosed, what can be done? In Anchorage a number of resources are now available. All reports of abuse should be made to the Child Protection Office of the state Division of Family and Children's Service at 274-1615. This number has a 24-hour answering service. A staff of 4 child protection workers are assigned full time to investigate all reports. All practitioners of the healing arts are required by Alaska statute (AS 47.17.020) to report suspected abuse and neglect. Such reports made in good faith are immune from legal suit by the child protection statute. State child protection workers receive help from many disciplines: day care, homemakers, vocational counselors, mental health clinics and psychiatrists.

Team consultation is provided child protection workers, and other community professionals, by the Anchorage Child Abuse Board, Inc.

Board members which comprise: a Public Health Nurse, Psychologist, Pediatrician, Child Psychiatrist, Social Worker, Minister, and Attorney, meet weekly with the state Child Protection staff. Medical and social, factors are reviewed for team impressions and recommendations. One of the chief resources provided by the board is that of parent aides, lay workers who are carefully selected, trained and supervised by board members. Kempe and co-workers in Denver pioneered the parent aide program with excellent success.[12] The Board has had 80% success rate with parent aides in Anchorage since December 1971. The Board can offer professionals as expert witnesses in selected cases.

The Board was created, and is annually elected, by the Anchorage Child Protection Task Force. This is a community based professional and voluntary organization which continues to provide education about child abuse and neglect. The task force assists in development of parent discussion groups. Helping support families in more effective means of raising children in no easy task. Learning about the experiences of many children in a variety of families gives parents in groups a perspective against which they can look at their children and themselves. They begin to understand the needs of children at different stages of development. This understanding seems to help parents adapt their expectations of the child's abilities to what the child can actually do.[14] There is a need for expansion of day care and crisis nursery and foster home facilities to prevent serious physical abuse.

CONCLUSIONS

National attention is being drawn toward child abuse. Senator Walter Mondale, chairman of subcommittee on Children and Youth, emphasized the complexity and seriousness of this problem by quoting Erik Erikson, "The most deadly of all possible sins is the mutilation of a child's spirit."[15] Kempe has emphasized that the role of a physician really only starts, not stops as commonly perceived, when a report of suspected abuse is submitted.[11] No one person can solve this problem alone, but physicians have the unique opportunity to lead in a therapeutic, rather than punitive, approach. We as human beings all have still some of the child in us. When small, we were utterly dependent upon those around us for survival. We remain dependent, throughout all our life, for meaningful survival. Child protection advocates believe all of our children belong to all of us and all our children need care from all of us.

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PRESIDENT'S PAGE

"Advertising" by Physicians

It is a tradition of professions not to solicit business. In most medical communities this is clearly understood. In some states this tradition is reinforced by statute.

Alaska law, AS 08.64.380 (3)(D), lists as one of the grounds for revocation or suspension of a license to practice medicine "advertising professional services to the public except for notice of opening, closing, or removing practice."

Section 5 of the Principles of Medical Ethics of the American Medical Association states that a physician "should not solicit patients." The Judicial Council of the AMA has received many communications about advertising by individual physicians, group, clinics, and hospitals and has found virtually all of this advertising objectionable. It has, however, referred all such complaints to constituent state associations. The AMA considers a brief news item in a newspaper about a new physician or his office not unethical, but does not speak directly to the question of newspaper notices.

Recently, there have been complaints in Alaska that newspaper ads by physicians far exceed merely giving notice. Complaints have been by physicians, not by the public which probably does not understand or care about professional advertising, and certainly not by the newspapers who welcome the business. Many of the notices are several column inches in size and often run for weeks on end. If a new doctor has joined a group or clinic, the opportunity is frequently seized to list all of the new person's associates by name and type of practice. It is hard not to consider this advertising.

On the other hand, revealingly, few notices of closure of a practice are placed. Such a notice would ordinarily be of far greater interest and service to the public than an opening notice. It is easy to surmise why so many notices of opening or moving are posted and so few notices of closure.

Attorneys never place public notices such as these. Neither do architects or engineers. The practice appears to affect health professionals predominantly. Dentists are more discreet than physicians. Perhaps taking their cue from our questionable habits, psychologists, physical therapists, and veterinarians are publishing ever larger, longer lasting notices. A psychologist recently ran an ad of about four column inches in both Anchorage newspapers for a full month. It seemed that it would never end. It is a valid question as to whether ads such as these are of use in building a practice. It is difficult to imagine that they help in any significant way. Most practices are built initially by overflow and by direct referrals from other physicians. It is considered appropriate for a new physician to send announcement cards to physicians in his area.

Rodman Wilson, M.D.

Perhaps there is a place for notices if done unobtrusively. Years ago in Cincinnati there was the peculiar custom wherein a physician opening his practice or returning from vacation placed a tiny one-half column inch notice for one or two days stating:

Samuel Jones, M.D.
At Home

No address, no telephone number, no specialty listing. It simply informed anyone who knew him that he was around and working. This was certainly subdued advertising. Our practices are not.

The State Medical Board, which grants and withdraws licenses, could promulgate regulations to clarify the limits of professional notices. It would be better if the Alaska State Medical Association prepared and adopted guidelines. If a physician or a group then violated the standards, a grievance could be filed against the physician or the group of physicians. Or a complaint could be made to the State Medical Board asking for revocation or suspension of license under AS 08.64.380.

The Association reinforced its stand against advertising at the June 1974 annual meeting in calling for expulsion of any member who directly or indirectly advertises his services or solicits patients. The resolution was published in the July issue of *Alaska Medicine*. Confrontation may come when Health Maintenance Organizations begin to solicit enrollees. Federally subsidized H.M.O.'s are allowed to do this, notwithstanding any state law prohibiting advertising by physicians.

It would be best of all if, like lawyers, engineers, and architects, we stop notices altogether. The long tradition against advertising has sound basis. The more we are commercial, the less we are professional.

JAMES EMMET O'MALLEY, M.D.

1907 - 1974

Dr. James E. O'Malley died at the age of sixty-six at Providence Hospital, Anchorage, August 11, 1974, of general and cerebral arteriosclerosis. He had closed his practice six weeks earlier after twenty-eight years in Anchorage. Dr. O'Malley was widely known and widely revered for his medical skill, humanity, and geniality.

Birth was in Chicago on September 14, 1907. Lineage was thorough Irish. He recalled with pride his fine education at the University of Chicago and, for his medical degree, at the University of Illinois. Further training was in Chicago, Baltimore, and Jefferson City, Missouri. He developed a reputation for skill in diagnosis and treatment of chest diseases.

For a brief time before World War II Dr. O'Malley had a practice in Chicago, but then joined the Army Medical Corps, serving for four years, 1942-1946, including duty in North Africa. He proudly maintained reserve status thereafter, retiring two years ago with rank of colonel.

Dr. O'Malley and his wife, Dr. Virginia Wright, came to Anchorage in 1946. He developed an enormous general practice, frequently seeing over eighty patients a day in his office. He enjoyed every minute of practice. The door of his downtown office was open to everyone — rich or poor, clean or dirty, sober or drunk. He was in his chair for a few hours even on Sunday and holidays (much to the chagrin of an outside insurance company which once thought that it had caught him red-handed listing routine services on Christmas Day). The doctor exemplified perfectly the old professional adage: "If you take care of your practice, your practice will take care of you."

Dr. O'Malley was small and thin, and his hair was white long before it should have been. His manner was brusque but his smile quick. His speech was irreverent and epigrammatic (overleaf). He was a skillful observer, preferring to talk and look, rather than systematically examine or test. He was particularly good at diagnosing skin diseases and at detecting psychiatric disorders. He stopped doing surgery and obstetrics many years ago. In his later years he used too much penicillin and too much intuition, but he was extraordinarily adept at knowing when to call for help from a host of physician friends.

Dr. O'Malley leaves Virginia and nine children — Molly, Jim, Barbara, Peggy, Sally, Laura, Tom, Ruth, and Robert. All of Anchorage will miss this wise physician, this lovable man.

—Rodman Wilson, M.D.

O'MALLEY APHORISMS

Epigrams were characteristic of Jim O'Malley's talk. Some are listed here. Trouble was that they were usually uttered apropos of nothing in particular. No matter, he pronounced them in measured tones of authority and (implied) authorship, then invariably grinned widely, wholly pleased with himself.

"It is a waste of lather to shave a jackass."

"Jesus was not a carpenter; He was a teacher. You never heard of any big jobs He was on. That carpenter thing was only to get the labor vote."

"If you are going to hang, you won't drown."

(on the economies of medicine)
"The small bite frequently applied."

"I may have a half-assed practice, but it puts meat on the table."

(on helping your friends make out)
"Confederate act."

(on working for airlines)
"In this business one hand washes the other."

"As pure as the snow on the convent roof."

"There are the insane, and then there are the relatives of the insane."

(when a difficult case switches to another doctor)
"When you lose, you win."

(on laboratory medicine)
"You don't practice medicine with a black box."

"There are old pilots, and there are bold pilots; but there are no old, bold pilots."

"I never had a patient who slipped on a banana peel; but I had one who slipped on a strawberry."

"Do you know how to treat tar burns? You don't remove the tar. You put on boric acid ointment. The tar dissolves into the ointment. Tar is antiseptic."

"If you get a fat person in your office, the first thing you ask is, 'Did you get enough to eat when you were a child?' "

"I had a patient who was driving with a chest strap on. She had an accident. The strap made cider out of her Adam's apple. Those things ain't safe."

"Never trust a doctor who plays golf."

(on faith healing)
"God is good, but He don't do surgery."

(on not going to Mass)
"I labor in the vineyard of the Lord 365 days a year."

NORTHERN HIGHLIGHTS - 14

SELECTED ABSTRACTS ON MEDICINE AND PUBLIC HEALTH IN THE NORTH

More on Eye Disease in the North

Drance, S.M.

Angle closure glaucoma among Canadian Eskimos. *Can. J. Ophthal 8:* 252-254, 1973

This paper gives the findings from a 1971 survey of 2,781 Canadian Eskimos to determine the prevalence of angle closure glaucoma. The population tested was equally divided by sex but contained a disproportionate number of young people. The diagnosis was made in those individuals who had an elevated intraocular pressure associated with gonioscopic findings of a closed angle or extensive peripheral syncchiae, or who had had the diagnosis previously made and surgery performed. No provocative tests were carried out.

Sixteen persons were found to have angle closure glaucoma, all of them over 40 years of age. Eleven cases were primary and five were thought to be secondary to uveitis. The age-specific rate for those over 40 was 4.3%, with a somewhat higher rate for females than for males. The rate for primary disease in those over 40 was 2.9%. Half of all eyes with the disease were blind, and 12.5% of all patients bilaterally affected were blind.

There is a need for further education of health personnel in the north to recognize this disease promptly.

Alsbirk, P. H.

Angle-closure glaucoma surveys in Greenland Eskimos. A preliminary report. *Can. J. Ophthal. 8:* 260-264, 1973.

This paper presents preliminary clinical results from several ophthalmological surveys carried out in the Umanaq district of Greenland between 1967 and 1971. The author is from the Department of Ophthalmology at the Central Hospital, Naestved, Denmark.

In one survey, 10% of women over 40 had primary angle closure glaucoma and 1.5% had primary open-angle glaucoma. The corresponding figures for men were 0% and 1%.

Rates of angle-closure glaucoma for the whole of Greenland were estimated in 1968 as 2.1% for women and 0.9% for men over 40. Eighty-six percent of all glaucomas were of the primary angle-closure type.

To elucidate the morphological predispositions to this condition, a number of measurement surveys were made. Anterior chamber depths by gonioscopy showed that 2.9% of women and 3% of men had narrow chamber angles. Lens thickness was measured by ultrasound biometry and patients were found to have a 6.6% greater thickness than random controls. The mid-lens position was also 8.3% nearer the posterior surface of the cornea in glaucoma patients. Corneal diameters of Eskimos were found to be 0.5 mm shorter than those of Danish controls.

Further measurements and analysis are in progress.

Drance, S. M.

Glaucoma panel summary *Can. J. Ophthal. 8:*278-279, 1973.

Because of the high prevalence of narrow angle glaucoma in Eskimos over 40, it was felt necessary to develop some guidelines for the prevention and early treatment of this disease.

Local populations must be made aware of the symptoms and signs of the disease and what they mean. Such education can be carried out through radio, by pamphlets, or by community health workers.

All health personnel must be reacquainted with the natural history of the disease and how to recognize and treat it. A red eye in an Eskimo over 40 should be strongly suspected of being glaucoma until proven something else. Ophthalmologists should screen as many persons as possible for narrow anterior chambers and carry out gonioscopy or perhaps provocation on all suspects.

The panel felt that a peripheral iridectomy should be carried out on proven cases rather than rely on miotics, the use of which is difficult to monitor in isolated communities.

Wyatt, H. T.

Abnormalities of cornea, lens and retina. Survey findings. *Can. J. Ophthal. 8:*291-297, 1973.

This paper describes the results of a survey for eye disease among some 4,450 persons in the Canadian Arctic. Data on corneal, lens and retinal disorders are presented here. The author is with the University of Alberta in Edmonton.

A total of 623 persons, or 14% of the total, were found to have a disorder of the cornea, lens or retina, singly or in combination. Corneal disease was the most common problem, occurring in 11% of the sample.

Eskimos under the age of 50 had a significantly higher prevalence of corneal disease (12%) than Indians (6%) or Whites (4%). Inflammatory scars accounted for 65% of the total, followed by traumatic scars (11%) and band keratopathy (8%). PKC was not a major cause of diminished visual acuity.

Diseases of the lens occurred in 3.6% of the sample. Nearly 2/3 of cataract cases were of the senile type and another 16% were traumatic in origin. Mature or hypermature cataracts were not detected.

Retinal disease was detected in 2.2% of the sample, with degenerative retinal changes accounting for about one-half of the total. Vascular disease was seen in 11% and inflammation and trauma each accounted for another 8%. Diabetic retinopathy was not seen. Retinal diseases were disproportionately associated with visual handicaps, as compared with corneal and lens diseases.

Wyatt, H. T.

Corneal disease in the Canadian north. *Can. J. Ophthal. 8:* 298-305, 1973.

Corneal disease was found in 11% of 4,450 individuals examined in northern Canada. Disorders of the cornea were classified as due to scarring or degeneration. The former group was subdivided further into inflammatory, traumatic, and unknown.

Of those with corneal disease, 84% had scarring. It was significantly more common in Eskimos than in Indians, and significantly more common in Indians than in whites. There was a strong association between inflammatory scarring and a present or past history of tuberculosis. In 5 cases the scarring appeared to be herpetic in origin. The prevalence of corneal scarring was least in the 0-19 group but then became significantly greater in the 20-39 year group. Thereafter the trend was upward but the differences were not statistically significant. Only 34/495 had decreased visual acuity as a result of scarring.

Trauma was a common cause of scarring leading to visual loss. Signs of untreated perforations were found in 19 subjects.

Arcus senilis was considerably more common in Eskimos and Indians than in whites. It also had an earlier onset in the former two groups.

Pterygium was recorded in 40 subjects, but in none was the disease active.

Labrador keratopathy was found in the western arctic but was considerably less common than in the eastern arctic.

Forsius, H.; Luukka, H.

Pseudoexfoliation of the anterior capsule of the lens in Lapps and Eskimos *Can. J. Ophthal. 8:* 274-276, 1973.

This paper describes a survey of Eskimos in Greenland, Canada, and Alaska and of Lapps in Northern Finland for pseudoexfoliation of the crystalline capsule, an eye condition first described by Lindberg in 1917. The authors are with the University Eye Clinic in Oulu, Finland.

The Eskimo communities surveyed included Wainwright, Alaska; Igloolik, NWT; and Augpilagtoq, Greenland. Of 96 Eskimos over 50 years of age, none showed exfoliation. In contrast, of 98 Skolt Lapps over 50 years of age, 18 showed exfoliation, two of whom also had glaucoma.

The authors feel that pseudoexfoliation of the anterior capsule is primarily a genetic disorder. There may be a difference in iris structure involved, but no correlation was found with iris pigment.

Freedman, A.

Labrador keratopathy and related diseases. *Can. J. Ophthal. 8:* 286-290, 1973.

The condition known as Labrador keratopathy is a bilateral acquired corneal degeneration which occurs with some frequency among all races living in Labrador and Northern Newfoundland. It is seen largely in adult males and may be graded in severity from 1 to 3. It was first described in Labrador by the author, who is associated with the Oxford Eye Hospital in England.

The author feels that pathologically the condition is probably the same as that known as Bietti's nodular dystrophy found in the arid regions of North Africa and the Middle East. He proposes the name climatic keratopathy.

The condition is thought to be found predominantly in men who spend their working lives outdoors. Solar radiation, evaporation of the corneal tear film and particulate injury have all been implicated in the etiology, but nothing definite has emerged.

Recently several cases of keratopathy were described in Eskimos living in various settlements of Baffin Island.

—Robert Fortuine, M.D.

Book Review

Diseases of the Digestive System

By S. C. Truelove and P. C. Rynell, 2nd edition, 760 pages, $23.50, Blackwell Scientific Publications, Oxford, London, and Edinburgh 1972, available in the United States through F. A. Davis Co., Philadelphia, Pennsylvania.

This book is the second edition, a revision of the well-received first edition first published in 1963 by the well-known British gastroenterologist, S. C. Truelove in association with P. C. Rynell. The purpose of both first and second editions has been to provide a relatively compact yet reasonably comprehensive review of digestive diseases for students, general practitioners, and those without specialized interest in digestive diseases. Like the first edition, it has served as something of a digested version (pardon the pun) of the mainstreams of thought in gastroenterologic disease. It offers quick summaries of the spectrum of digestive diseases and a number of references which are appropriate for documentation although for the most part old and outdated. It covers disease of the liver, pancreas and biliary tract, as well as the alimentary canal, encompassing a rather large scope.

Although the once-over-lightly concept of the book perhaps widens its appeal to those not directly dealing with sick patients, its lack of depth makes its use as a reference text disappointing. There are few clear and concise diagrams or other illustrations except for the photographs, which are generally quite excellent. It's unclear why the liver was included, since the liver chapters are for the most part too brief. Several other excellent liver texts exist and cover the subject much better; perhaps the current vogue of separation of hepatology from gastroenterology would have served the book. For example, there is only a half page on Australia antigen or hepatitis associated antigen; the brief description of Australian antigen is far too shallow to provide any useful information. A similar deficiency in discussion of new concepts in gastrin is a serious one. Of course with a book published in 1972, the problem is that it was conceived and written mainly in 1970 and 1971, which makes the impressive advances of the last three to four years unavailable and somewhat limits its usefulness.

In summary, *Diseases of the Digestive System* is a well-written and broad but shallow book with somewhat limited usefulness; to the clinician dealing with gastroenterologic patients and desiring a reference source, Spiro's *Gastroenterology*, 1970, and the more recent and encyclopedic Sleisenger and Fordtrand's *Gastrointestinal Disease, Pathophysiology, Diagnosis, Management*, 1973, W. B. Saunders Co., are probably more useful.

—Richard F. Buchanan, M.D.

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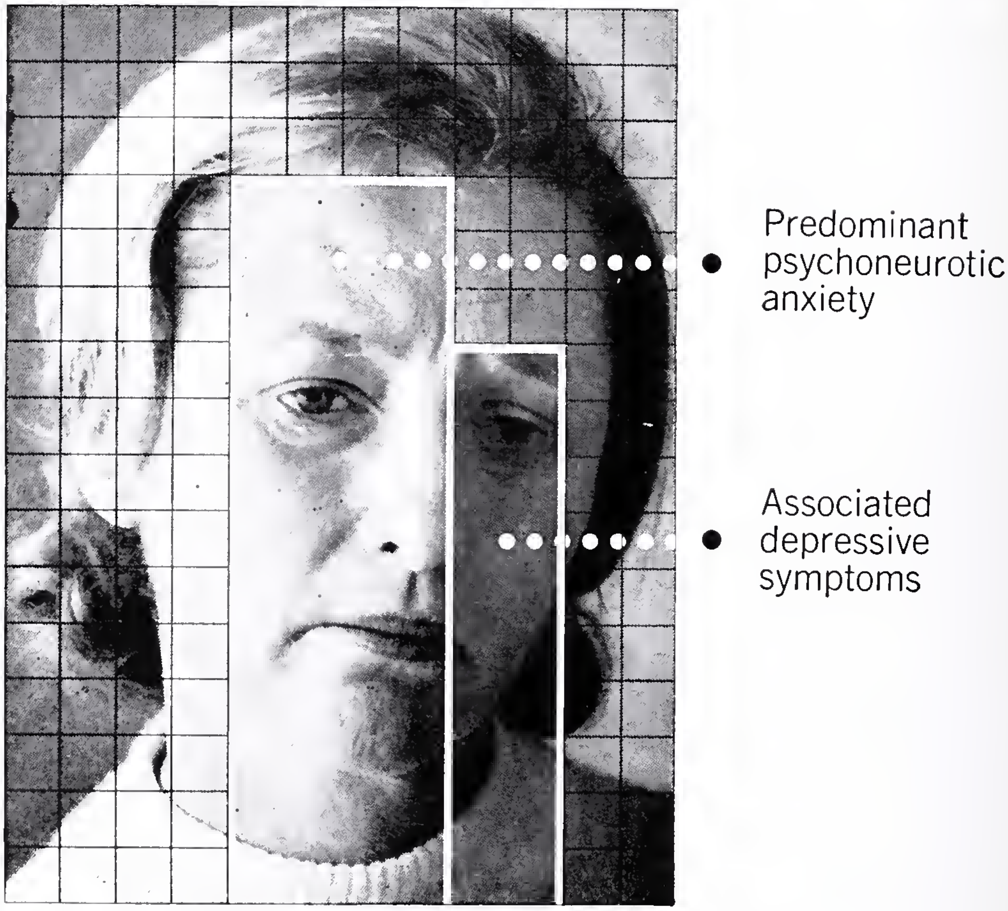
Predominant psychoneurotic anxiety
Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequenc and/or severity of grand mal seizures ma require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

NURSE-PHYSICIAN INTERACTION: A NEW PARTNERSHIP IN HEALTH CARE DELIVERY

Ingeborg G. Mauksch, R.N., Ph.D.

Change in the delivery of health and illness care in our society is being demanded by a number of groups: the consumer, various non-physician health care professionals, and in some ways, also by the physician. An attempt to meet all of these demands for change can lead to a variety of decisions and innovations. In this article the focus will be on the development of a new partnership between the physician and another health professional, namely the nurse. A different type of nurse-physician interaction, it is believed, could provide a kind of care heretofore unachieved.

As these demands for change are noted and examined, it is found that they basically have two dimensions. One arises from the needs of people for consideration of certain aspects of care which the health and illness care delivery system has not met, such as health maintenance, attention to social problems, human factors and the like. Furthermore, it must be understood that the range of human needs has rapidly increased in recent times, yet consumer access to those who could meet some of these needs has not been developed in the current system. The second dimension of the requirement for change is from health care professionals who believe that their contribution to the care of people is diminished or altogether denied because the physician has preempted the role of deliverer of care, controlling it to the exclusion of others. In fact, the key to patient access is still largely vested in the physician's gatekeeping power. And even if health care professionals have the necessary contact with patients, they are still denied the credit or respect due them for the contribution they indeed make.

The delivery of health and illness care (specifically illness care because health care is certainly not being delivered appropriately) can be viewed historically in terms of three models. These were developed descriptively by Dr. Hans O. Mauksch, as follows: Originally, the role of the physician can be likened to that of St. George, who slayed the dragon illness single-handedly. There was no one else involved in the process except those who cared for the ill at home, primarily the members of the family. Theirs were not specific skills, nor did they undergo any special training. As it became apparent that the armamentarium of sword and shield became inadequate to slay the dragon illness, the system gradually changed. In its new form it could be likened to that of an army headed by the general, combating the enemy illness. When the physician acted like the general, he was the ultimate unquestioned authority, heading a steep pyramid of support staff. His orders were followed without question. He received virtually all of the credit for success, assumed most of the responsibility, and certainly was the main decision maker within the

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Dr. Mauksch is Professor and Family Nurse-Practitioner in the Department of Community Health and Medical Practice at the University of Missouri School of Medicine, Columbia, MO 65201. This paper is based upon a presentation by Dr. Mauksch at the Third Alaska Health Congress, Anchorage, Alaska, in June 1974.

health care system as well as in the national political arena.

Gradually, this system, too, became obsolete, because the singleness of command and decision making of the "army" model is no longer meaningful. The concept "enemy" is now obsolete. Now we think in terms of illness care, health maintenance, the acquisition of a higher level of health, and the achievement of a peaceful, dignified death. People have needs which can no longer be met through the use of tools, devices, and strategies at the command of the general. Thus, in the delivery of care, a new model is required and the analogy that seems to fit the situation best is that of the orchestra. The consumer's needs may be likened to the musical score. Much of the time, the physician is the conductor of the orchestra; but it must be remembered that each and every member of the orchestra has a vital part to perform autonomously and collaboratively in order for the music to come forth correctly in unison, beautifully synchronized, and harmonized. Many times the production requires that a member of the orchestra take over a solo part. Sometimes, this member actually stands on the podium; many times, he remains in his seat, yet is viewed as being center stage by his peers. By assuming leadership for the conduct of the orchestra, he ensures the most appropriate delivery of sound, which in turn corresponds to the best presentation of the music according to the demands of the score.

A look at the orchestral phenomenon of health and illness care delivery helps us understand that health professionals other than physicians, such as, for example, the nurse or the social worker or the occupational therapist, may have vital parts to play in their contribution to the fullest realization of the music, i.e. the needs of the client. This concept places all health care workers into new relationships to each other. One such relationship, that of the nurse to the physician, is the focus here. The benefit of this new relationship to the care of the patient will result from their ability to contribute in a free unencumbered way, orchestrating their care thru better communication. But it also will benefit each of the professionals in the sense that it will enable them to reap the benefits of colleagueship, egalitarianism and mutual respect. Certainly, it will require change on the part of both the physician and the nurse.

How will the nurse be able to assume this new role of colleague to the physician and as co-decision maker? How will she be able to perform it in such a way as to help meet the needs of the patient, but also meet her needs for recognition and for appreciation as someone whose contribution to the health and illness care of people is vital and not replaceable? What will the nurse need to do in order to meet the demands of competence in this new role? How will she participate in the care delivery which on the one hand will give her an opportunity to be a colleague to the physician and on the other hand provide her with the access to the patient, enabling her to deliver the kind of care which she deems necessary?

The nurse needs to consider two dimensions in her effort to aspire to this role; — first, the dimension of professional competence, and second, the dimension of the quality and nature of her relationships as she presents herself in a new context. Professional competence will be achieved if the nurse understands the nursing process and comprehends the need for pertinent data collection in order to meet the demands of the process; if she updates herself in all appropriate areas of biological and behavioral science. Nurses know a good deal about what physicians do, but many times they do not really know what it is that they as nurses need to deliver. A nurse needs to understand, therefore, that the nursing process demands of her the ability to assess the patient's need structure as completely as possible, to make decisions about needs which she as a nurse can meet, about needs which someone else in the group can meet, and lastly about needs which no one in the particular setting can meet. She then must select the interventions necessary to care for the patient, and to share in the goal setting which always precedes the effective partnership between patient and nurse. She must appreciate the patient's attempt to attain a new level of health, to maintain a present level of health, or to achieve a peaceful, dignified death.

The second dimension of the nurse's concern is that of her understanding of herself: as a woman, as a person, and as a professional. Historically, nurses have been socialized to think of themselves as being very unimportant. In fact, their socialization included the three S's: self-sacrifice, submission, and self-effacement. Nurses believed until recently that their main function was to assist the physician in the implementation of his therapeutic regimen, and only rarely did they realize that their contribution to the care of the patient was paramount and could stand on its own right. Nurses need to learn to be risk takers, to acquire a stance of accountability for their own acts. They must be able to determine what it is they can do for the patient, how to do it, and then assume responsibility for having done it. Blame avoidance was rampant among nurses in the past; it was part of their sense of self to feel that they served the patient best by contending that their ministration was contingent upon the physician's order, a supervisor's directive, or a hospital rule. Now, the nurse must be able to say, "I am doing this because it is what I believe you need and I am responsible for doing it."

Next, nurses need to learn to behave as colleagues. It is difficult for them to understand that they may hold an opinion or have made an observation which, even though in conflict with one made by the physician, is still the correct one. To be able to say "I felt this node, I heard this heart sound, or I saw the injection in this throat," is something which nurses must learn if they are to work side by side with the physician.

Working with the physician also raises issues of their personal relationship. How often has a nurse been called by her first name by the physician and yet it never occurred to her to use the first name appellation when addressing him?

It undoubtedly is difficult for her to convince herself that one relates to a colleague on an egalitarian level. If first name usage is appropriate for one, then it must become so for the other. In the past, the nurse has been accustomed to wait on the physician. She has brought him his coffee, perhaps held his laboratory coat for him, a service she performed because she mainly acted as his assistant. In this new partnership, on the other hand, the focus is on the patient. Both the physician and the nurse serve him. Thus, it will be necessary for her to learn that there will be times when the physician will assist her, hand her equipment, or be of service to her in some way. To accept this gracefully, in a natural fashion, will not be easy at first. But once she has acquired the ability to function in this manner, she becomes aware of the great comfort and of the humanistic contribution this new relationship makes to her self-esteem, to the physician's sense of humanness, and to the benefit of the patient.

What about the physician? What must he learn? Obviously, this part would be best described by a physician. As the nurse sees it, what he learns will not relate so much to his areas of competence; they will not need to change, though they may grow in human understanding. His new learnings rather will have to be largely in the area of interpersonal relationships, in general in the appreciation of the nurse as a colleague, in particular and in the acquisition of those behaviors which transmit this appreciation. Physicians have viewed nurses as assistants and as sex objects. They have put their arms around them, squeezed them, spoken to them about their attractiveness; none of this bore any relationship to their joint patient care activities. Certainly, it lacked the main ingredients of a professional relationship: nurses, unfortunately, responded by acceptance. In fact, many times it was the only way in which they felt they could get to the physician in order to make a point about patient care. Now, the physician will need to learn to view the nurse in the context of her professionalism, and regard her femaleness as incidental. He will need to recognize the fact that the nurse primarily is a professional colleague, whose competence contributes to the care of the patient for whom they share responsibility. Traditionally, a physician was accustomed to be treated as the most important person present. Some will find it difficult to relinquish this elitism and to become "one of the crowd"; in the long run, however, it will tend to humanize them and to enable them to demonstrate their humanity.

Physicians are not well informed about what nurses know. Time was when they contributed in a major way to the curriculum of a nursing program. Even then, however, they were only aware of their own area of contribution. More recently, the gulf between nursing and medicine has widened. As a result, physicians are not being invited to teach nurses any longer. Thus, they know even less about what nurses know. How can a physician have respect for the competence of a nurse, not knowing her skills, and more significantly, not knowing that she acquired learnings which he has not been exposed to? Today, nurses are more competent and have better training in the area of behavioral science, in establishing a positive relationship with patients and their families. Nurses view the patient within the context of a family and a community infinitely more than physicians do, if physicians do so at all. Knowing this, and appreciating its contribution to patient care, it will be possible for the physician to develop respect for the nurse, not only on the basis of what he can observe her do with her hands, but also because of what he knows she contributes to the care of patients within the context of the nurse-patient relationship. As he recognizes her new role in patient care, he will need to learn to share certain aspects of decision-making with her. This, he will find, improves the quality of care and reduces his own accountability.

There can be a great deal of satisfaction and beauty in this new relationship. It may affect and enhance the positive contribution to the care of patients which both members of this relationship bring. It certainly will benefit the patient, because now his physician and his nurse communicate, they share his care, they plan together, and by so doing enhance the contribution that each makes. In the final analysis this is the purpose of the existence of the nurse and the physician. If by developing a new relationship, they extend and improve the care they give to patients, both directly and indirectly, this new partnership may well turn out to be a significant innovation.

THE PHYSICIAN AND NURSE AS PARTNERS: AN ALASKAN REALITY

Ronald W. Keller, M.D.

On May 15, 1974, Ruthann Saxton and I formed the first professional corporation between a physician and nurse practitioner in Alaska. We weren't intending to make history, we just wanted to establish the most convenient, economical and successful practice we could.

My wife encouraged the partnership. Ruthann relieved some of the family concerns about "going it alone." The main problems were legal. Because of her non-professional status, my wife was unable to hold stock with Ruthann and me. We all understood a three-way split in decision-making, though.

Actually, the partnership idea evolved slowly. I had no idea how to set up a pediatric practice. I was scared, but determined to maintain my independence. I had already decided against attaching myself to an existing group. My goal was to be my own boss in my own operation.

Obviously, I needed help. A nurse and assistant were essential. Both needed to be trained not only in pediatrics, but in "my type" of pediatrics. I wanted people with knowledge of office procedure as I really had none. (That is neglected in medical schools.)

At this point I began to consider Ruthann, a Pediatric Nurse Practitioner, working with me at the time. She was in the same boat — very independent-minded and definitely not satisfied with her previous group experiences.

She seemed the ideal solution. She could be a nurse, assistant and work with primary care patients in an unsupervised capacity. We had already spent some months working together and I knew her ability and enthusiasm.

In other ways, Ruthann was the perfect "partner." I needed someone with knowledge of bookkeeping, insurance and "receptioning." (I certainly couldn't afford to hire an additional person. I was starting with no capital and borrowing with only my MD license as collateral.) Ruthann could help supply my lack of office knowledge. She had spent some years in both pediatric and surgical offices. She knew how to file insurance claims, make appointments and how to collect from difficult patients.

Our personalities seemed to mesh well, too. Ruthann is firm, decisive and strong-willed. I tend to be cautious and contemplative. We seemed to complement each other.

Most importantly though, I wanted someone with obvious interest in seeing the practice succeed. (I didn't want just anyone only interested in the monthly pay check.) Therefore, I looked to incorporation. By incorporating Ruthann, as a professional stockholder, we could receive maximum input with minimal outlay and "make a break" together.

Since beginning, more advantages to our type of practice have emerged. Unscheduled C-sections no longer need destroy an office afternoon. With Ruthann there, the patients can still be seen and evaluated. Lab testing and x-rays can be underway by the time I return. The schedule is still flowing and moving despite the unplanned absence.

When I need extra time with a particular patient, I can continue the consultation without fear the next patient will be kept waiting. Ruthann can begin patient evaluation and I can pick up in the middle. Or Ruthann can (and occasionally does) take my initial evaluation to her completion.

We have also discovered that Ruthann has her own special areas of expertise and interest. I refer to her these cases:

1. Adolescent obesity
2. Female sex education
3. New mother support and encouragement
4. Denver Developmental Testing

Ruthann's experience with telephone techniques has been a timesaver, too. She asks the proper questions and is able to medically evaluate symptoms to determine when a visit is necessary. She is perceptive at reading parental concern and anxiety which may also warrant an office call.

Ruthann does many of the required office precedures — blood drawing, lumbar puncture, ear lavage, etc. My time input is thus lessened in these areas.

I have confidence Ruthann will handle tonsillitis, urinary tract infection and otitis so that we'll coincide in our consult, lab evaluations and treatments. It is almost as if we had written protocols for each other's.

I, also, know to a fair extent what she is seeing when her chart reads "otitis," without resorting to lengthy discussion or diagrams. I never worry that she is going to allow "meningitis" to walk out, or a third UTI to go without x-ray evaluation.

I am consulted on all abnormalities she finds. And, I bring her in for things I pick up so we will both "see" the problems should the patient be seen next by the other person.

Of course, we attempt to constantly evaluate and improve our partnership. We have expectations and plans that we haven't yet been able to put into action.

Eventually we will each be seeing regularly scheduled patients, with a nurse taking over the office routines. We also hope to begin setting aside a well-baby day that I might be able to take call from home while Ruthann covers the clinic. Ruthann could eventually begin doing some part of the hospital newborn evaluations. She could be especially valuable conducting the initial interview and question and answer sessions with the new mothers.

She might possibly receive permission to accompany patients to surgery and x-ray to provide the "familiar face" comforting to a frightened child. This, of course, would also allow her to expand her knowledge.

Hopefully, we will eventually be able to develop a more effective call schedule. Ruthann might accept phone calls and weed out the necessary emergencies from the nighttime parental anxieties. My call time could then be spent either in leisure or working with actual emergency consultations.

If Ruthann were allowed Emergency Room privileges, she could see many of the ER patients I now deal with. She could then handle some (stitches, earaches, diarrhea, etc.) herself or get the necessary lab and x-rays underway before I arrive.

When the patient population increases, we would like to add another PNP. Together, Ruthann and the additional PMP could do most well child care. I could then concentrate on hospital work, consultations and problem cases (previously identified by the PMP's). The obvious benefit is that my time and training could then be used with maximum effectiveness.

CONCLUSION:

Ruthann is certainly essential to my practice. For the most part she is also an equal. As such, it seemed logical that she be a corporate member. Whether the decision to incorporate with Ruthann was correct or not is yet to be answered. After five months the results seem encouraging, but inconclusive.

In any case the physician-PMP corporate concept offers an alternative to the standard medical practice. It provides unlimited possibilities which should be considered.

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GENERAL ELECTRIC

FACIAL PARALYSIS CARVED IN ALASKAN NATIVE MASKS

Richard S. Van Wagoner, M.S.
Tong H. Chun, M.D.

When European powers began to explore the northern Pacific region in the 18th century they found the north Pacific coast, Kodiak and the Aleutian Islands, and the Bering Sea coast of Alaska to be three of the most densely populated areas of the New World. The populations in these areas consisted of two major ethnic groups: Eskimo-Aleut and Indian. The Indians were divided into two major groups, the Athapaskans of the Interior of Alaska and the Tlingit and Haida of the north Pacific coast. The geographical distribution of these groups has remained virtually intact since the 18th century.

These aboriginal groups had made remarkable adaptations in clothing, housing, transportation, and hunting techniques that allowed them to live without hardship in their respective environments. Because of the abundant and unfailing food supply and the density of population, the North Pacific area, including all of present-day Alaska, had become a center of cultural development with art being its primary manifestation.

Extensive works exist on the independent artistic developments of the North Pacific Indians and Eskimo-Aleut cultures, and it is not the intent of the authors of this paper to dwell on general cultural development. Our main interest in pursuing this paper was to research facial paralysis depicted in Eskimo and Tlingit wooden masks. Many fine old masks which depict facial paralysis are in the possession of Sheldon Jackson Museum in Sitka, Alaska (see Figures 2-7).

Facial paralysis can be the result of several factors. In a series of 347 cases of peripheral facial paralysis, Cawthorne found 90% of the lesions to be in the temporal bone with 69% being caused by Bell's palsy, 15% by surgical trauma, and 8% by otitis media. The remaining 8% were caused by various factors including tuberculosis.[1]

Our selected pictorial representations of six carved masks are quite representative of facial paralysis demonstrating the lack of muscle control on the involved side. Persons with facial paralysis complain of numbness because, although superficial sensation is normal, muscle sense from the face travels in the facial nerve to the nervus intermedius, and it is this defective deep sensitivity which is complained of.[2]

Aside from Bell's palsy, which in theory should be of no greater incidence in Alaska than elsewhere, the causes of facial paralysis that we feel to be of primary importance historically in Alaska are acute and chronic otitis media and to a lesser extent perhaps tuberculous otitis media. Otitis media has ranked as one of the three primary causes of morbidity in Alaskan Natives since statistics have been kept, and we presume that the incidence was high long before the golden age of statistics and antibiotic therapy.

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Mr. Chun is Chief of the Otology Department, PHS Alaska Native Hospital, Mt. Edgecumbe, Alaska.

This activity was supported in part by a special grant from the Maternal Child Health Services, Health Services and Mental Health Administration, U. S. Department of Health, Education & Welfare.

Studies that have been done in Alaskan aboriginal groups show a tremendously high incidence of otitis media. Brody, Overfield, and McAlister report evidence of chronic otitis media in one-third of Alaska Natives examined.[3] Other studies indicate that perhaps the Eskimo has the highest rate of otitis media of any ethnic group in America.[4,5] Indian Health Service statistics for Alaska Natives show that during the year 1966-1972, otitis media was the third leading cause of hospital admissions behind accidents and childbirth.[6]

Statistics for tuberculosis in the State of Alaska indicate that an epidemic level of disease existed prior to 1955 when the United States Public Health Service assumed responsibility for providing health care to Alaskan aboriginal groups. The incidence rate for tuberculosis in 1952 was 1854.3/per 100,000 for Alaskan Eskimo and Indians compared to 70.5/per 100,000 for all races in the United States.[6]

Until the early 1950's widespread medical care was not available for Alaska Natives, and even when medical care was made available it was not always utilized. The magnitude of the difficulties encountered may be summarized by stating that until recently Eskimo parents did not consider draining ears an illness because it was so common in their children.[5]

Facial paralysis may be a complication of either acute or chronic otitis media. When it occurs in the first week or ten days of an acute otitis media it is due to edema of the facial nerve within its bony canal (same problem with Bell's palsy). Facial paralysis in chronic otitis media is a result of bone erosion affecting the bony facial canal. In former times this was also an infrequent symptom of tuberculous otitis media.[2,7] Present treatment for acute otitis media is antibiotic therapy with possible myringotomy. Treatment for chronic otitis media consists of various mastoid surgery and tympanoplastic procedures. These methods of treatment, of course, are of recent origin.

In order to gain a more complete understanding of why Eskimo and Tlingit masks were carved depicting facial paralysis, it is necessary to examine the culture significance of the masks. No mask in early Tlingit-Haida or Eskimo-Aleut culture existed as a carving in itself, but rather as a part of an integrated complex of story, song and dance in religious and secular activities. The person most essential in both cultures for an understanding of mask making techniques was the shaman (witchdoctor). The shaman was considered a doctor, an interpreter for vast unknown forces controlling the food supply, and among other things the main architect for the dances that served as a liaison between the spirits and the people.

The shaman interpreted the mask's physical shape either from his own vision or from traditional forms and then usually delegated a good carver to carry out his design. Most of the masks were made this way although under certain circumstances a carver could make a mask without a shaman's guidance provided that he did not copy the shaman's personal guardian spirit form.

It is not possible to determine all of the mask's functions because both groups of Alaskan aboriginals utilized oral rather than written history. It is possible, however, to determine some of these colorful functions. If an Eskimo in his daily life witnessed a strange event or experienced an unusual adventure, he would attach a supernatural significance to it. This would in many cases be carved into a mask. It was believed that curious mythological beasts could change their forms from animals to men.[8] Many of these mythological beings were considered dangerous and were collectively called Tungat. The uses of these evil creatures are not entirely clear, but apparently the shaman used them to counteract a disaster or disease that threatened the public welfare of the people. Masks were also widely used for curing by the shaman though apparently this was reserved for causes that had wider social implications than a simple illness.[9] No mention is made in oral traditions or early written works that the masks depicting facial paralysis were carved for effect only. Most masks had specific purposes and the Tlingit mask (see Figure 1) was particularly carved to ward off facial paralysis in the wearer of the mask.

It is not at all surprising that a great deal of specific information cannot be obtained on mask culture. When the Alaska Native became more sophisticated by contact with Europeans and Americans the masks' functions as well as many cultural items fell into disuse and with this was the loss of a vast amount of mythological information connected with the old beliefs.[9, 10] As early as 1896 it was difficult to even obtain an authentic carved Native mask. By the late 1800's European missionaries had destroyed every mask that they could find in the Aleutians. The majority of Eskimo masks in American museums were collected between 1877 and 1900, and the gold rush years of 1896-90 saw gold rushers acquiring every Eskimo object in sight. Alaska Natives capitalized on this and practically reduced their art works, including mask making, to a souvenir level.[9, 10] Such masks though they may have "meaning" to those who collected them and to those who exhibit them, were spiritually meaningless to those who carved them. Thus, it is reasonable to presume that the reasons for depicting a certain feature on a mask such as a facial paralysis would be lost. To further complicate the matter, information left by most old mask collectors was fragmentary and often erroneous. Thus, it is not surprising that published photographs of masks with facial paralysis usually explain them as a mythological being that is half man and half animal (Tungat).

It is our assumption, and we believe it to be a reasonable one in view of the information that we have presented, that the original purpose facial paralysis was carved in Alaskan aboriginal masks was to ward off facial paralysis from occurring in the carvers' culture.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the assistance of Esther Billman and Alice Postell for researching pictures in Sheldon Jackson Museum and Steve Lay of the Bureau of Indian Affairs Mt. Edgecumbe High School for photography work.

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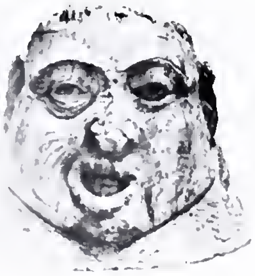


Figure 1: Tlingit Carving

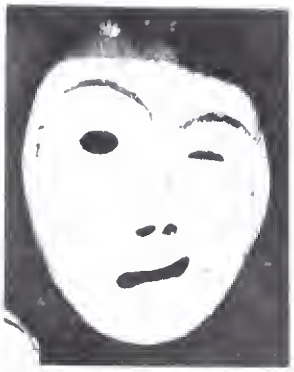


Figure 2: Eskimo Carving

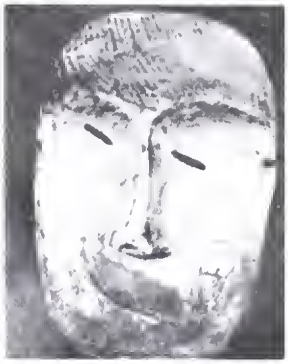


Figure 3: Eskimo Carving

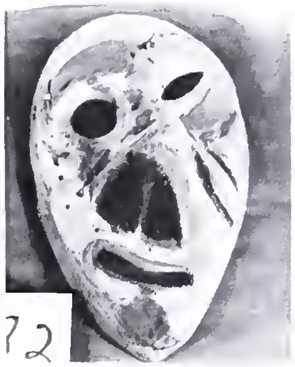


Figure 4: Eskimo Carving

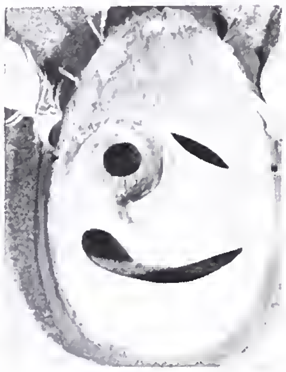


Figure 5: Eskimo Carving

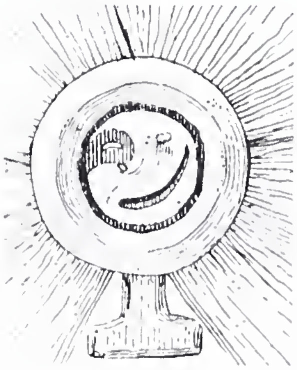


Figure 6: Eskimo Carving

PRESIDENT'S PAGE

READING THE PULSE OF THE ASSOCIATION

Rodman Wilson, M.D.

The most difficult question State legislators ever asked me during the seven years I was chairman of the Association legislative committee was "Doctor, does your statement reflect the opinion of all your members?" Legislators are smart enough to ask this question again and again. Each time I gulped and tried to come up with an honest answer. Sometimes it would be, "Of course not, but this is what a majority feel"; or, "No, but a majority attending the annual meeting resolved thus and so"; or, "No, but the legislative committee acting on authority of the Association developed this position." Each time the answer was a bit lame. Indeed, it always will be because there is no way to monitor consensus on each and every issue, much less list all diverse opinions on a matter.

There was criticism of Association leadership at the June annual meeting concerning newspaper articles earlier in the year which set out certain positions of the Association which some members thought had not been widely enough discussed and formulated by the membership. Criticism was justified. The officers and committee chairmen too easily assume that they read the mood and thoughts of their colleagues.

Positions on major issues affecting public health and the profession stem principally from resolutions made at the annual meeting. These are the "standing orders" of the Association. The trouble is that resolutions are frequently hastily conceived and almost never adequately debated at the annual session. Passage may come late in the day by a sparse sitting. A matter adopted 22-0 in June may appear bizarre in November and may prove to be utterly indefensible in April in the legislative crunch.

So the job of the officers, counselors, and committee chairmen is consistently and persistently to learn what other members are thinking. We have certain modalities for this but need more. In addition to debate and actions at the annual meeting, there are reports from counselors to the Association, dissemination of information through *Alaska Medicine* and the Newsletter, other mailings, and opinions polls sent to members. The last has not been used enough; it should be exploited further (taking care to provide a franked return envelope!).

More ideas could be exchanged if the six component medical societies (Fairbanks, Anchorage, Kenai Peninsula, Juneau, Sitka-Mt. Edgecumbe, Ketchikan) would forward to the Association office a copy of minutes of each local meeting and if the Executive Committee and the Council sent minutes of their meetings to local societies.

In final analysis, however, it is not simply that officers, counselors, and committee chairmen should let other members know what is going on. If more members participated in the development of attitudes and policies and if more members actively worked on committees, then consensus would be more secure. The strength and impact of the Association is a direct function of the degree of participation of members.

COMMISSIONER'S PAGE

Frederick McGinnis

The Department is very proud of its many accomplishments during the last four years and I would like to share with you a progress report on the Divisions of Mental Health and Public Health.

The Division of Mental Health, under the direction of Dr. Jerry Schrader, has made noteworthy progress during the past year and a half. Prior to his arrival on June 26, 1973, the Division was without a director for almost 12 years. Successful recruitment and hiring of well-qualified psychiatrists for many open positions has led to a breakthrough in administering mental health services throughout the State.

A system has been developed and implemented for determining patients' ability to pay at both Alaska Psychiatric Institute in Anchorage and Harborview Memorial Hospital in Valdez. The new system provides for equitable applicability to all liable citizens.

Alaska is finally able to provide quality care for its mentally retarded patients within its own boundaries. The last residents receiving out-of-state care were transferred to Alaska on August 28 from Haven Acres in Salem, Oregon. Additionally, a Mentally Disordered Offender Unit and program have been conceptualized and planned to treat those mentally ill Alaskans who require secure treatment and care.

Through the federal level agency of the Alcohol Drug Abuse and Mental Health Administration of HEW (ADAMHA), Alaska is one of several states designated a Special Program Development State. Consequently, the Division of Mental Health was joined with the Office of Alcoholism, Drug Abuse and Comprehensive Health Planning to receive special assistance from ADAMHA to strengthen and coordinate these programs.

As Director of the Division of Public Health, Dr. Donald Freedman four years ago established increased health services to women and children as a top priority. This has been successfully accomplished through the establishment of statewide family planning clinics and women's clinics for early detection of chronic diseases such as cancer and hypertension. Additionally, a Newborn Care Project for high risk infants throughout Alaska has been implemented. Audiological services have been increased to cover broader areas of the State. The Division initiated an Early Periodic Screening, Diagnosis and Treatment Program (EPSDT) for eligible children under Medicaid and established a statewide PKU laboratory for the screening of all newborns.

Considerable improvements have been made in the overall control of communicable diseases with the assumption of responsibility for virus-rabies laboratory diagnostic services within Alaska. Also, a syphilis serology proficiency testing program for premarital-prenatal serology was implemented. In its first year of operation in Anchorage, the gonorrhea culture screening program jumped from 1,200 cultures to 24,000 cultures. A statewide Rubella Serology Screening Program was initiated for detection on non-immune females.

The Monthly Communicable Disease Report was changed to a bi-weekly bulletin to provide more up-to-date reports of communicable disease problems to physicians and local health authorities. The statewide rapid telephonic reporting system was expanded for reporting of communicable diseases so as to permit control procedures to be initiated earlier.

A regulation has been adopted assuring all school children immunizations to protect them from preventable diseases.

Progressive steps in Environmental Health include the extension of laboratory services to provide seafood bacteriology and paralytic shellfish poison testing (PSP). Final steps have been completed toward gaining membership in the National Shellfish Sanitation Program for Alaska. This will permit Alaskan fishermen-harvesters to harvest and sell razor clams from selected surveyed beaches to seafood processors for interstate human consumption.

An environmental chemistry laboratory was established and certification was obtained for regional laboratories by the Environmental Protection Agency for analysis of water samples from water points supplying interstate carriers.

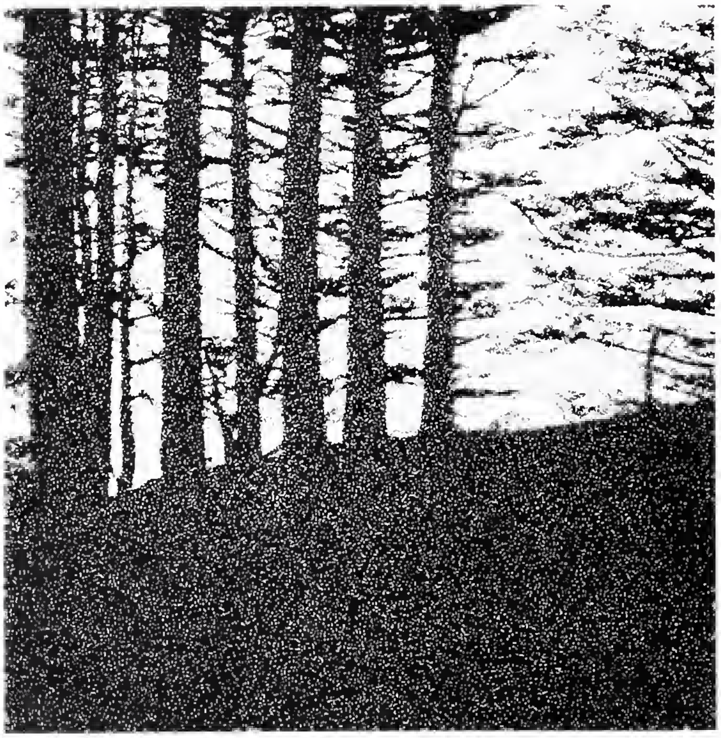
Additionally, food service sanitation courses were initiated statewide in cooperation with local school officials and food industry officials.

Structural reorganization of the Division has allowed for more efficient and effective health services to be delivered to larger numbers of people, including the addition of a Health Studies Unit to explore new programs to meet emerging health needs in Alaska.

A very successful pilot project was initiated this year in Barrow, Wainwright and Barter Island which provides supplemental foods to Women, Infants and Children (WIC) and serves 100 people. The nutritional program is designed to ascertain (1) if supplemental foods are beneficial in correcting certain health problems of persons determined to be nutritionally deficient, (2) to collect data on the effects of diet on health problems, and (3) to provide consumer education in areas of food utilization.

Other highlights include the completion of a feasibility study to identify needs for inservice education to equip nurses to provide better and more sophisticated health services. In collaboration with the College of Nursing, Alaska Methodist University, a curriculum was developed for a baccalaureate nursing program and a continuing nursing educational program.

"Accomplishment" is merely a word. What brings it to life and ensures its success are the hundreds of dedicated and talented Alaskans we proudly refer to as staff members.



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Not Made of Wood by Jan Foudraine. Macmillan Publishing Co. Aug. 1974. $9.95.

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General Ophthalmology, Lange Medical Publications. 1974. $9.50.

Handbook of Medical Treatment, Lange Medical Publications.

BOOK REVIEWS

HEALING IS FOR REAL by Malcolm Miner, Moorehouse Barlow Co. New York, N. Y., 1972.

Malcolm Miner, a clergyman raised in a medical family, convincingly presents a clergyman's point of view about healing in this book. Healing is a gift that is constantly taking place and is not a special gift for only a few. Frequently we are unaware of God's healing power around us. The recovery of a woman in coma after Father Miner had prayed with her, apparently was one of the first incidents which helped him accept the reality of spiritual healing. But not all are healed. In the absence of outward healing, there may be healing of the mind or the spirit. Healing of the soul and preparing a person for death is sometimes more important than healing of the body. Death can be looked forward to as a great adventure when fear of death is overcome through Christ.

Critics of spiritual healing suggest that healing be left to physicians and those trained in medicine but the author rightfully points out that we need to treat the whole person including his mental and spiritual condition. Although some "healers" encourage ignoring medical procedures, most spiritual healers consider themselves allies in the war against disease with both physicians and clergy on the same team.

He stresses the scripture, "confess your sins to one another and pray for one another that you may be healed," (James 5:16). This principle has been emphasized in the history of the early Christian church, in the Catholic church, and in groups such as Alcoholics Anonymous which stress the confessional aspect of healing. The role of the healer is a cooperative one with Christ the healer.

This book emphasizes some truths about healing that are frequently overlooked or looked at differently by physicians. Few physicians participate in spiritual healing. This writing represents a basis for continuing dialogue between clergy and physicians on healing of persons we are both trying to help. I encourage my fellow physicians to read it.

Warren R. Jones, M.D.

Gastrointestinal Disease, Pathophysiology, Diagnosis, Management

Marvin H. Sleisenger, M.D. and John S. Fordtrand, M.D., $37.50, W. B. Saunders Co., Philadelphia, Pennsylvania, 1973.

This book was conceived to fill a gap in gastroenterology textbooks which had been felt since the Bockus series became outdated. Volumes by Rudolph *(Diseases of the Digestive System* 1972) and Spiro *(Clinical Gastroenterology*, Saunders, 1970) suffered from shallowness because of their broad scope and the use of only one author. Sleisenger and Fordtrand have edited a book written by a number of experts in various fields of gastroenterology, excluding the liver which is admirably handled by other texts such as Schiff's *Diseases of the Liver.* The result is an up-to-date, thorough, and clinically useful text with excellent illustrations and photographs with a number of short chapters which makes for ease in using it as a reference. Because of the use of numerous authors, it lacks the consistency of style and easy reading of Spiro's text; its thoroughness, however, and its cost makes it far wiser choise for purchase of anyone wishing a serious textbook of use to those dealing with seriously ill gastroenterologic patients.

—Richard F. Buchanan, M.D.

NORTHERN HIGHLIGHTS - 15

SELECTED ABSTRACTS ON MEDICINE AND PUBLIC HEALTH IN THE NORTH

PROBLEMS IN OTOLARYNGOLOGY

Kaplan, G. J.; Fleshman, J. K.; Bender, T. R.; Baum, Carol; Clark, P. S.

Long-term effects of otitis media. A ten year cohort study of Alaskan Eskimo children. *Pediatrics 52:* 577-585, 1973.

This paper relates the long-term consequences of chronic otitis media on intelligence, hearing and school achievement in Eskimo children. The authors are with the Arctic Health Research Center, the Center for Disease Control and the Alaska Area Native Health Service.

A cohort of 489 children from southwestern Alaska had been followed medically since birth in the early 1960's. In 1969 a study was undertaken to evaluate the effects of otitis media on intellectual functioning and school achievement. Some 28 villages were visited by a physician, nurse, audiologist, and psychologist. Examination and testing followed on each child and results were correlated with clinical records and histories.

Of 489 children, 374 (76%) experienced 1,593 total episodes of otorrhea, an average of 4.3 episodes per person. Seventy-eight percent had their first attack before the age of 2. Males and females were equally affected. There were perforations or scars in 41%, and 9% had active purulent otitis. Sixteen percent had a hearing loss of 26 db or greater. Children with an early onset and significant hearing loss had a definite loss of verbal ability and were retarded in mathematics, reading, and language. Deficiencies in verbal ability correlated well with episodes of otitis media.

Those children with no history of ear disease were 12-13 months behind expected performance. Those with ear disease and hearing loss were even further behind and the gap tended to widen with increasing grade level.

The educational implications are that children with early and recurrent ear disease will predictably require special classroom assistance in order to progress normally in school. Perhaps special teaching skills will be needed.

Manning, P.; Avery, M. E.; Ross, A.

Purulent otitis media: differences between populations in different environments. *Pediatrics 53:* 135-136, 1974.

This short piece is an editorial comment on the preceding paper. Dr. Manning is from Frobisher Bay General Hospital and the other two are from the Montreal Children's Hospital.

The authors describe the urgent need for insight into the causes of otitis media of epidemic proportions among the Eskimos and suggest that it may be appropriate to begin by comparing them with other societies and races around the world. They point out the high incidence among the Maori of New Zealand, the Australian aborigines and the American Indians. In East Africa, on the other hand, chronic purulent otitis media is uncommon even among desperately malnourished children.

There is also some evidence that otitis media in Eskimos is now more common than in former times. Most adults had normal drums in a survey performed in the Baffin Zone.

The possibility is suggested that the changing life style of children may play a part in the high incidence of the disease. It has been found, for example, that many more children in Frobisher Bay have perforated ear drums than in more isolated settlements such as Pangnirtung, Resolute Bay, or Clyde River. In the latter settlements, breast-feeding and a more traditional diet continue to be used. This is an area that deserves further study, especially since it is apparent that genetic or climatic conditions cannot account for the differences.

Johonnott, S. C.

Differences in chronic otitis media between rural and urban Eskimo children. A comparative study. *Clinical Pediatrics 12:* 415-419, 1973.

This paper describes a study performed while the author was a senior medical student at ANMC during the summer of 1970. Not long after her graduation, Dr. Johonnott returned to Alaska and unfortunately drowned as the result of a boating accident a short time later.

Most studies of otitis media in Alaska Natives have been carried out in village populations. The purpose of this investigation was to compare the prevalence of chronic otitis media in a group of urban Eskimos born in and living in Anchorage with a group born during the same period in 5 villages near Kotzebue. Because of the mobility of urban families, only 136/286 of the urban children could be examined, whereas 300/306 of the village children were seen. Data collection was through a precoded questionnaire using hospital charts, village health aide records, and interviews with parents and health aides as sources of information. Strict definitions of each type of otitis media were closely followed.

The most striking finding was that only 1 child had active chronic otitis media and 5 had inactive chronic otitis media, a total of 4.4% of the 136 children.

In contrast, 17 of the rural children had active disease and 38 others had inactive chronic otitis media, for a total of 18.3%. These differences were highly significant statistically.

In general, the two groups were comparable with respect to the early onset of disease and the total percent affected at some time in their lives. A major difference in the two groups was the greater degree of racial admixture in the urban group.

One possible explanation for the differences between the urban and rural disease experience is in the better socioeconomic conditions, housing, and sanitary conditions of the urban group. Availability of health care, at least of a basic kind, was comparable in the two groups.

The prevalence of chronic otitis media decreased in the rural children over the period of years (1961-67) covered by the study. If this increase is real, it may reflect the better health care available through the health aide system.

—Robert Fortuine, M.D.

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